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RESEARCH

SYSTEMATIZATION OF AN INSTRUMENT FOR PATIENT CLASSIFICATION IN A TEACHING HOSPITAL

SISTEMATIZAÇÃO DE UM INSTRUMENTO DE CLASSIFICAÇÃO DE PACIENTES EM UM HOSPITAL UNIVERSITÁRIO

SISTEMATIZACIÓN DE UN INSTRUMENTO DE CATEGORIZACIÓN DE PACIENTES EN UN HOSPITAL UNIVERSITARIO

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ABSTRACT

Cross-sectional study, aiming to verify if the number of evaluation days influences the classification scores of the complexity level of patients in the hospital units. The sample included 151 adult patients hospitalized between July and August 2014, generating 920 ratings. The Perroca scale was applied throughout two periods, at 5 and 20 evaluation days and the variables were analyzed using Generalized Estimating Equation. There was no statistically significant difference in the level of complexity of care comparing the two periods (p = 0.72). It was observed that the evaluated patients had a high level of care complexity. The application of an instrument to classify patients is a key knowledge to the demand of care and nursing activities. The application of the proposed Perroca scale in 5 days enables the development and systematization of this activity in nursing practice.
Keywords: Workload; Inpatients/classification; Nursing Care; Nursing Assessment.

RESUMO

Estudo de delineamento transversal com o objetivo de verificar se o número de dias de avaliação influencia os escores para classificação do nível de complexidade dos pacientes numa unidade de internação. A amostra incluiu 151 pacientes adultos, hospitalizados entre julho e agosto de 2014, gerando 920 avaliações. A aplicação da escala de Perroca foi realizada em dois períodos, compreendendo cinco e 20 dias de avaliação e as variáveis foram analisadas por meio do teste de equações de estimativas generalizadas. Não houve diferença estatisticamente significativa no nível de complexidade dos cuidados comparando-se os dois períodos avaliados (p=0,72). Observou-se que os pacientes avaliados possuem elevado nível de complexidade assistencial. Entende-se que a aplicação de um instrumento para classificar pacientes é fundamental para conhecimento da demanda assistencial e das atividades da Enfermagem. A proposta de aplicação da escala de Perroca em cinco dias viabiliza a incorporação e sistematização dessa atividade na prática do enfermeiro.
Palavras-chave: *Carga de Trabalho; Pacientes Internados/classificação; Cuidados de Enfermagem; Avaliação em Enfermagem.*

RESUMEN

Estudio transversal, con el fin de verificar si el número de días de evaluación influye en las puntuaciones para clasificar el nivel de complejidad de pacientes hospitalizados. La muestra contó con 151 pacientes adultos internados entre julio y agosto 2014, generando 920 calificaciones. Se utilizó la escala de Perroca en dos períodos que incluyen 5 y 20 días de evaluación; las variables se analizaron con la prueba de ecuaciones de estimación generalizadas. No hubo diferencia estadísticamente significativa en el nivel de complejidad de la atención en la comparación de los dos períodos evaluados (p = 0,72). Se observó que los pacientes evaluados tenían un alto nivel de complejidad asistencial. Se entiende que el uso de un instrumento para la categorización de pacientes es clave para conocer la demanda asistencial y de las actividades de enfermería. La propuesta de utilizar la escala de Perroca en 5 días permite la incorporación y sistematización de esta actividad en la práctica de enfermería.
Palabras clave*: Carga de Trabajo; Pacientes Internos/clasificación; Atención de Enfermería; Evaluación en Enfermería.*

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INTRODUCTION

Allocating the human resources needed to provide quality and safe nursing care is one of the most important challenges for nursing managers in the current health settings. For over 50 years, researchers have sought to develop tools to indicate the appropriate number of nurses to ensure the care to the patients. In this context, instruments to calculate the hours of nursing care per patient-day are widely used. However, the need for professionals is often calculated without considering the proportion of nurses or nursing technicians, as well as without considering the level of complexity of hospitalized patients.[1,2]

In the 60's, the patient classification systems (PCS), also known as workload management (patient acuity tools), were developed with the objective of measuring, for each patient, the complexity of care that required the attention of nurses, allowing to estimate the number of professionals needed to meet these needs in each shift of work. These systems also subsidized the assessment of costs and quality of care offered. The acuity of the patient, or degree of dependency of nursing care, is a very important concept to patient safety.[1,2]

Therefore, patient classification systems (PCS) have been fundamental tools to describe the profile of care complexity and to serve as a base for the calculation of hours of care required from the nursing team, enabling the management of human resources to meet the demands of inpatient units.[1,2]

The profile of care complexity (or degree of patient dependency) has implications on the workload of the nursing staff and repercussions on the quality of care provided and patient safety. There is growing evidence of the relationship between the nursing staff workload and aspects that involve patient safety in hospitals, however, there are still many gaps in knowledge about the nature of this association.

A recent study showed that when the nursing workload is high, the monitoring the professionals can offer to the patients is impaired and the risks of adverse events increases.[3] But even if there are international initiatives to measure the workload and establish the minimum nursing staff for the care of hospitalized patients, in Brazil, this goal is still distant.[4-6]

Despite the definition of parameters for staff dimensioning that has been reported by the representative bodies of Brazilian Nursing in the last decade[7], they do not have legal support through a specific legislation to regulate the relationship between the number of patients and the number of nursing professionals in health institutions. Therefore, for a safe health care to be achieved, there are still major challenges concerning nursing human resources and the conditions of the environments where it is practiced in Brazilian hospitals.

The planning of the staff and of the nursing team workload provides estimates of the number of professionals needed to offer assistance to a particular patient or group of patients. Determining the number of patients assigned per nurse is more accurate when there is more knowledge about the profile of patient care complexity or degree of dependence. Recently, a local study warned that the absence of an instrument to monitor the classification of the degree of dependency of patients systematically is critical, and contributes to the difficulty of analyzing the workload in inpatient units.[7]

Some national studies have proposed scale models to classify patients by the level of care complexity or degree of dependence on nursing care. These models enable the evaluation of the care to be given patients to quantify the time of care required by them. The conversion of the nursing hours per patient is performed according to the type of care needed and classified in: minimum care (4h), intermediary care or high dependency (6h), semi-intensive care (10h) or intensive care (18h).[8-11] In other institutions the validation and application of international instruments that aim to quantify the nursing care and the degree of complexity of activities with patients, during the period of work, were adopted.[12-14]

In relation to the assessment of patients, the PCS developed by Perroca instructs a systematic and daily application of the classification instrument, in the same time and by the same professional, from the beginning of the hospitalization until the patient's discharge, which provides a more reliable perception of the level of care complexity.[8,9] Considering that the frequency suggested by the author implies an increase in workload for nurses, which may sometimes make the scale unusable, it is not clear whether this PCS can be applied by sampling. Thus, the research question for this study is: "does the number of evaluation days of the patients influence the outcome of the classification of the complexity level of patients in the inpatient unit?" It is understood that the patients' classification systems are used as management tools that can contribute by giving visibility to the care needs of patients, and to the nursing professionals required to meet these demands of work in health institutions.

The relevance of this study is in adapting the application of the instrument to the possibility of labor application of the nurses, without diminishing the reliability of the end result of this evaluation. Considering that, the aim of this study was to verify if the number of days of assessment influences the scores for the classification of the level of complexity of patients in an inpatient unit in a teaching hospital in the south of Brazil.

METHODS

This is a cross-sectional study, in which the factor under study was the application time (five and 20 days) and the outcome was the difference between the scores of the Scale of Perroca between the evaluations carried out in five and 20 days, respectively. It is worth noting that the institution already uses the

assessment of the patients' level of complexity through a systematic application of the scale of Perroca, during five business days in a default week in each month, on all inpatient adult units.

The study was conducted with hospitalized patients in an inpatient unit of a university hospital in the south of Brazil. It is a sector with 34 beds available to receive clinical and surgical patients, from medical specialties such as Oncology, Cardiology and Pulmonology, among others. The care provided to patients with multidrug-resistant organisms (MDROs) is a feature of the unit. According to the norms of the institution, the management and screening of the beds during admissions, in this sector, are carried out by the Hospital Infection Control Committee (HICC) and the Internal Bed Regulation Committee (IBRC).

The research sample includes all evaluations of patients who were hospitalized in the sector evaluated. The sample was selected by convenience, randomly including hospitalized patients during the period of data collection according to the order of hospitalization, following the routine of the hospital.

The sample of the research included the evaluation of 151 patients, totalizing 920 assessments conducted between July and August 2014. The instrument was applied in two stages, after five and after 20 days. In the evaluation of five days, 41 patients who were admitted in the last week of July were included, generating 158 evaluations (group 1). In the following month, the instrument was applied in 20 days, in 110 patients, totalizing 562 assessments (group 2). The inclusion criterium was being hospitalized in the period of data collection. There was no exclusion criterium, neither losses in the study.

The instrument used was the last version of the patients' classification scale of Perroca, which is composed of nine indicators of care with individual scores from one to four, in an increasing order of complexity. The total sum classifies the care in minimum (9-12 points), intermediate (13-18 points), semi-intensive (19-24 points), and intensive (25-36 points).[9] The scale was applied by previously trained nurses of the sector, choosing the same time for collection in every day it took place.

Data were collected from information from the electronic medical records of patients, grouped on worksheets of the software Microsoft Excel for Windows®, and analyzed with the aid of the statistical software Statistical Package for the Social Sciences®" (SPSS), version 20.

The variables were analyzed through the generalized estimating equation, using a multinomial distribution, with accumulated logit function. The covariance matrix with robust estimate factor were used and the matrix of work correlation was not structured.[15]

The research was conducted after approval by the Research Ethics Committee of the institution involved, under protocol no 12-0332, and complied with national and international standards of ethics in researches involving human beings, according to the Resolution 466/12 of the National Health Council.[16]

RESULTS

Group 1 was accompanied through five days and included 41 patients, to a total of 158 evaluations. The average number of days of hospitalization of the patients in the unit in this period was 13,08 days and the occupation rate of 88.33%. The average score of classification of this group was 22.3 ± 0.4 points, with an interval of 21.9 to 22.9 points.

Group 2 was evaluated for 20 days and was composed of 110 patients and 562 evaluations. The average of hospitalization days was 13.08 and the occupation rate was of 88.14%. The average evaluation score was 22.4 ± 3.3.

The complexity level of the two groups can be found in Figure 1:

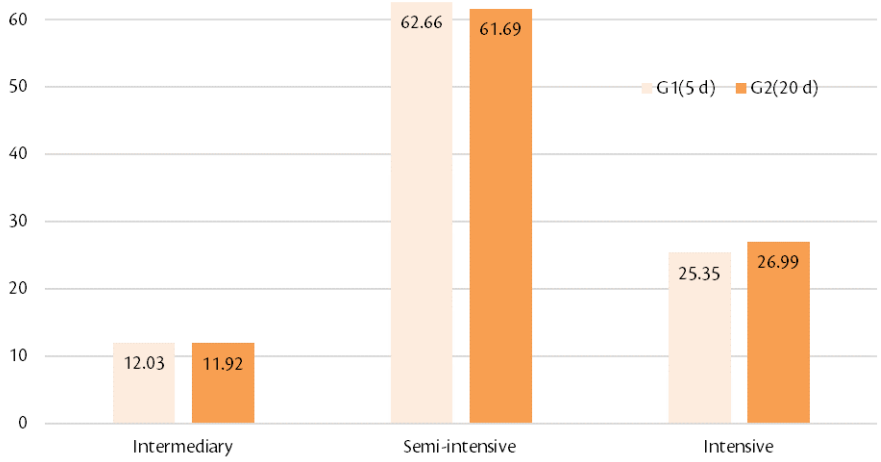

Figure 1 - Distribution of the percentage of patient care, according to the classification of Perroca, applied at 5 and 20 days, respectively. Porto Alegre, RS, Brazil, 2014.

The absence of patients observed is classified as minimal care. The evaluation performed demonstrated that there was no statistically significant difference in the level of complexity of the care between the groups (p=0.72).

The distribution of the average of the indicators of care in the two groups is presented in Figure 2:

In both groups the increase in demand for care occurred in the indicator of care number 7 – "therapeutic", an item that gives a score the number of medications administered; followed by indicator number 2 – investigation and monitoring, which included controls of vital signs, oxygen saturation, airway clearance, emergency care, measurement scales, among others.

DISCUSSION

This study allowed to identify that there was no statistically significant difference, in this population, for the scores of the level of complexity of patients with the application of the instrument for five or 20 days. No investigations were found that assessed the time of application of the instrument for patient classification. National studies conducted in the area do not present a consensus in relation to this aspect, besides not expressing clearly this information in the methodological description. It can be noted, however, that the daily use of the instrument is the most commonly adopted routine.[17-19] The possibility of applying the instrument for five days implies a reduction of 75% of the nursing demands that is generated only by the application of the scale, which demonstrates the impact of this result on the work process.

The measurement scales can provide more accuracy in the evaluation of patients, providing data for decision making in care management. A study conducted in a teaching hospital in the state of São Paulo showed that personal and professional characteristics of the evaluator can interfere with the way of classifying patients. In this sense, the evaluation conducted through instruments covers a greater number of areas of care, compared to an assessment that does not use any parameter.[20] In the professional practice it is important to adopt evaluation strategies that address the real needs of patients, to guide decisions of nurses in the planning and effectiveness of assistance. The use of multiple instruments, however, should be assessed considering the high demand of work and their respective demands.

The population of this study consisted of surgical patients, with chronic diseases and MDROs, which require the use of a protocol for the prevention of dissemination of the pathogen,[21] in addition to the administration of multiple medications such as antibiotics, antivirals and antifungals, among others. The clinical situation tends to be unstable, requiring the constant presence of the nursing staff at the bedside, either for guidance about the care for the patient and family or for the continuous monitoring of vital signs, oximetry and capillary blood glucose. It is noteworthy that several patients used cutting-edge technology, such as, for example, non-invasive ventilation equipment.

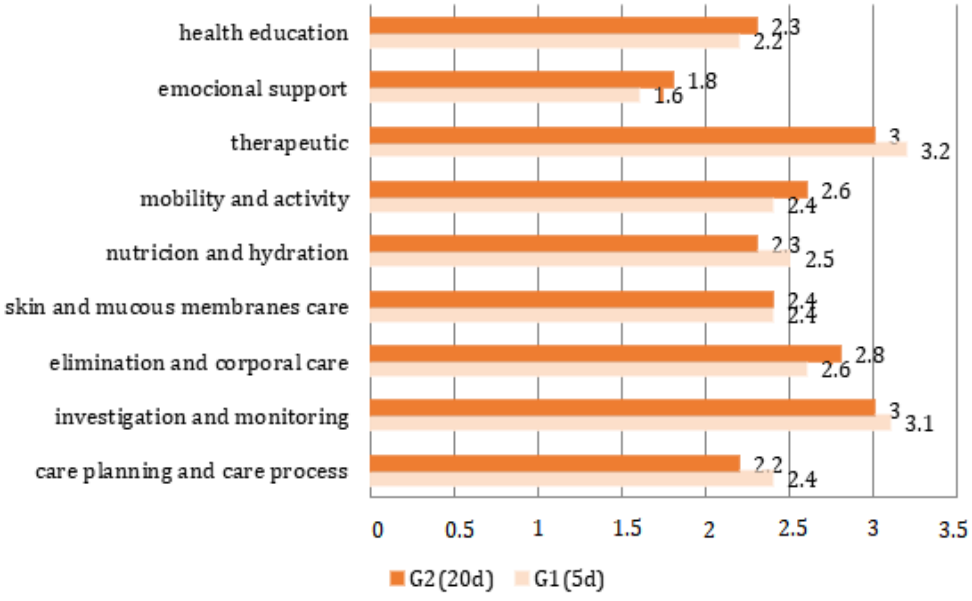

Figure 2 - Distribution of the average of indicators of care, according to the classification of Perroca, applied at 5 and 20 days, respectively. Porto Alegre, RS, Brazil, 2014.

The overload of work, which is expressed by numerous activities, responsibilities, an insufficient number of professionals and the need to harmonize direct care and management functions, can increase risks to patient safety and the health of the employee. These findings corroborate the results of other studies in the Brazilian setting, which indicate a tendency towards an increase in inpatients in severe clinical conditions and hemodynamically unstable, evidencing a change in the profile of care complexity for this population, and using different scales for the classification of patients, with a predominance of patients classified on levels of semi-intensive and intensive care.[22,23]

It is important to thoroughly assess the work processes when new tools or technologies are to be implemented, since nurses have numerous responsibilities as members of the health team, oftentimes having a high load of activities that stands out, and frequently exceeds the time available to perform them.[22] Thus, adding one more daily task can mean an increase in the workload that already exists.

Chronic patients, especially those who develop sepsis by MDROs, tend to have a prolonged hospital stay because of the failure of multiple organs and a slow disease evolution. Also, considering the aging process and the increase of chronic non-communicable diseases, many patients in the community are already dependent for the continuity of their care.[23,24] In this setting, changes in the practice of nursing assistance take place, regarding the degree of dependency and the professional profile, to cater for these needs, justifying the application of the evaluation instrument for a shorter period.

CONCLUSIONS

The systematic application of an instrument to classify patients is fundamental to generate knowledge about the demands for care for the nursing staff, besides involving issues related to staff size and patient safety. Thus, the proposal to apply of the scale of Perroca in five days allows the incorporation of this activity in the nursing practice, contributing to the decision-making regarding the care and the management of the work.

In spite of the relevance of the findings, the results achieved are circumscribed to the reality of the study, due to the cross-sectional design and the fact that it was conducted in a single institution, not allowing the generalization of its results. Despite this limitation, these results contribute to the viability systematizing the monitoring of the degree of dependency of the patients in other units of the institution investigated, and may generate knowledge for future studies.

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