

Assessment of the product of nursing care in specialized hospitals

Avaliação do produto do cuidar em enfermagem em hospitais especializados
Evaluación del producto del cuidar en enfermería en hospitales especializados

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ABSTRACT

Objective: To evaluate the product of care in units of specialized hospitals, identifying the items that most contributed to the score; to compare the product of care among hospitals, units, and shifts; to verify the association between demographic and professional variables and the product of care. **Method:** Descriptive study, conducted in eight units of two specialized hospitals in the State of São Paulo. The evaluation of the product of care was performed by applying an instrument to 44 nurses. **Results:** "Multidisciplinary interaction and performance" obtained the lowest median in both hospitals, and the "Meeting assistance needs" and "Nursing care planning" were the better assessed ones. "Dimensioning of nursing staff" was the item that most contributed to the total score. There was a weak correlation between socio-demographic variables and score. **Conclusion:** The product of care, as found in both hospitals, was predominantly considered "good." The tool enabled the identification of critical aspects of the nursing work.

Descriptors: Nursing Assessment; Process Assessment (Health Care); Professional Practice; Health Services Management; Specialized Hospitals.

RESUMO

Objetivo: Avaliar o produto do cuidar em unidades de hospitais especializados identificando os itens que mais contribuíram para o escore; comparar o produto do cuidar entre os hospitais, unidades e turnos; verificar a associação entre as variáveis demográficas e profissionais e o produto do cuidar. **Método:** Estudo descritivo conduzido em oito unidades de dois hospitais especializados do estado de São Paulo. A avaliação do produto do cuidar foi realizada mediante aplicação de instrumento por 44 enfermeiros. **Resultados:** "Interação e atuação multidisciplinar" obteve a menor mediana em ambos hospitais, e "Atendimento das necessidades assistenciais" e "Planejamento da assistência de enfermagem" foram melhor avaliados. "Dimensionamento de pessoal de enfermagem" foi o item que mais contribuiu para o escore total. A correlação entre variáveis sociodemográficas e escore mostrou-se fraca. **Conclusão:** O produto do cuidar encontrado em ambos os hospitais foi considerado predominantemente "bom". O instrumento permitiu identificar aspectos críticos do trabalho de enfermagem.

Descritores: Avaliação em Enfermagem; Avaliação de Processos (Cuidados de Saúde); Prática Profissional; Administração de Serviços de Saúde; Hospitais Especializados.

RESUMEN

Objetivo: Evaluar el producto del cuidar en unidades de hospitales especializados identificando los ítems que más contribuyeron a la puntuación; comparar el producto del cuidar entre los hospitales, unidades y turnos; verificar la asociación entre las variables demográficas y profesionales y el producto del cuidar. **Método:** Estudio descriptivo conducido en ocho unidades de dos hospitales especializados del estado de São Paulo. La evaluación del producto del cuidar fue realizada mediante aplicación de instrumento por 44 enfermeros. **Resultados:** La "Interacción y actuación multidisciplinaria" obtuvo la menor mediana en ambos hospitales, y la "Atención de las necesidades asistenciales" y la "Planificación de la asistencia de enfermería" fueron mejor evaluados. El "Dimensionamiento de personal de enfermería" fue el elemento que más contribuyó a la puntuación total. La correlación entre variables sociodemográficas y puntuación se mostró débil. **Conclusión:** El producto del cuidar encontrado en ambos hospitales fue considerado predominantemente "bueno". El instrumento permitió identificar aspectos críticos del trabajo de enfermería.

Descritores: Evaluación en Enfermería; Evaluación de Proceso (Atención de Salud); Práctica Profesional; Administración de los Servicios de Salud; Hospitales Especializados.

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INTRODUCTION

Nurses are the professionals responsible for organizing the nursing care⁽¹⁾, being part of assistance planning, organization of structural conditions for care provision, management of people and conflicts, educational actions, professional interactions, monitoring and implementation of the care provided, in addition to the control over the outcomes⁽²⁾.

To perform such actions, nurses have embedded management tools and instruments in their work routine⁽³⁾. Such appropriation makes it possible to envision new opportunities for the patient, team, and institution, in addition to allowing to understand in advance the necessary changes in the work environment and methods, making the practice more favorable for those who care and those who are cared for⁽¹⁾.

Classifications, scales and measurement tools compose the nursing care management⁽⁴⁾. In recent years, an increased scientific and professional interest on how to measure actual and possible issues concerning the patient, team, and work situations⁽⁵⁻⁶⁾ is observed. However, it is important to consider the validity and reliability evidence of these scales to obtain accurate information and take effective decisions⁽⁴⁻⁵⁾.

The tool called "Assessment of the nursing care product" (APROCENF) was developed to classify the product generated at the end of the nursing work, also providing for the identification of critical factors of this production⁽⁷⁾. This is a powerful tool for negotiating and improving the nursing professional practice, qualifying the care and the product of care provided⁽⁸⁾. The APROCENF covers four broad categories in nursing care management: care planning, intervention, and assessment; dimensioning and qualification of nursing team; resources required to providing care; and multi-professional interaction⁽⁷⁻⁸⁾.

As this is yet a recent managerial tool, there are still no studies on its applicability in practice, evaluating the product provided by nursing and the factors interfering with this process.

OBJECTIVE

At evaluating the product of care in units of specialized hospitals, identifying the items that most contributed to the score; comparing the product of care among hospitals, units, and shifts; and verifying the association between demographic and professionals variables and the product of care. To this end, the following questions are proposed: *What is the product of nursing care generated at the end of the work in inpatient units of specialized hospitals? Are there differences in the results obtained between hospitals, units, and work shifts? To which factors can these differences be attributed? Which APROCENF items most contribute to the total score of the product of care? Is there an association between the product of care obtained and the demographic and professionals variables of those who evaluated it?*

METHOD

Ethical aspects

This research was only initiated after the opinion of the Research Ethics Committees of the institutions object of study was disclosed, and after the nurses' agreement.

Study design, location and period

This is a descriptive cross-sectional study, a result from a master's thesis⁽⁹⁾, characterized as having a quantitative nature, in the modality of an assessment study. In it, the product of nursing care is conceptualized as an interaction between factors that intervene in the care process: structural factors (human capital and support services) and work organization methods (care planning, patient/family care, and multidisciplinary interaction)⁽⁷⁾.

The research was conducted from June 2015 to April 2016, in eight units: clinic, surgical, hematologic, bone marrow transplantation, pediatric and neonatal intensive care, maternity, and kangaroo care. They belonged to two specialized hospitals in northwestern São Paulo state – called, in this study, H_A and H_B.

Sample: inclusion and exclusion criteria

A random sampling of 138 evaluations of the product of care was performed, being 73 in H_A and 65 in H_B. Evaluations were filled out by 44 nurses (H_A n = 31; H_B n = 13) in different shifts and days of the week. The evaluators should be responsible for coordinating the duty, i.e., clinical nurses. We allowed the instrument to be applied more than once by each participant.

Due to this being the first research using the APROCENF tool after its validation, a sampling of more than 100 evaluations was adopted, comprised by professionals who agreed to participate in the study.

Study protocol

The following instruments were used to obtain information: two forms – one for professional and personal characterization of the evaluators and another for data recording –, and the APROCENF, to evaluate the work shifts.

The first form requested from participants demographic data (gender and age) and professional data, such as function, work shift, time of professional performance within the institution and unit, and higher qualification (training, residency, specialization, master's degree and doctorate). The other, in turn, allowed the registration of individual and total scores with the classification of the product of care, date and time, unit and name of the nurse who performed the assessment.

The APROCENF covers eight items: 1. Nursing care planning; 2. Resources requires to providing care; 3. Dimensioning of nursing staff; 4. Educational actions and professional development; 5. Care monitoring and transfer; 6. Multidisciplinary interaction and performance; 7. Patient/family care; and 8. Meeting of assistance needs. Each item of the tool has for subitems that allow the

classification from 1 to 4. Through the sum of the points obtained in each subitem, one can obtain an overall score that evaluates the product of nursing care as bad (8 to 12 points), regular (13 to 20 points), good (21 to 28 points) or great (29 to 32 points). The assessment of the Scale psychometric properties showed a Content Validity Index (CVI-S) ≥ 0.9 , Cronbach's Alpha coefficient of 0.85, inter-evaluator equivalence, and evidence of construct validity⁽⁷⁾.

Before the data collection, the APROCENF was presentation to each nurse individually, in accordance with the agreement to study participation. At this point, its purpose, composition, and operation were addressed, and existing doubts, dispelled. Subsequently, copies of the tool and forms were distributed by one of the researchers according to a scale previously prepared to ensure the alternation of the evaluators by shifts, aiming at meeting the study objectives. In the case of new doubts arising during the application of the tools, they were clarified by the researcher. The collection was held in the research units on a daily basis, and additions were carried out when necessary.

Analysis of results and statistics

The scale was considered to be ordinal and the significance level was set at $p \leq 0.05$. The SPSS Statistical Package v.22 (IBM Corporation, Armonk, NY) software was used for statistical treatments: 1. Descriptive analysis for the participants' data of personal and professional characterization, presented from frequency, percentage, mean, standard deviation, median and interquartile range (IQR = Q3 - Q1) values; 2. Cronbach's Alpha for testing the internal consistency (reliability) of the tool; Mann-Whitney nonparametric test for comparison between groups (H_A e H_B); and Kruskal-Wallis test for comparison of the instrument items between units of each hospital; 3. Spearman's correlation coefficient (two-tailed) to verify the association between mean score of the answers and the participants' demographic and professional variables. The numerical interpretation of the correlation was: very weak (0 - 0.19), weak (0.20 - 0.39), moderate (0.40 - 0.59), strong (0.60 - 0.79), and very strong (0.8 - 1.0)⁽¹⁰⁾; 4. Chi-square test for the association between work shifts (morning, afternoon, and night) vs. mean score of the evaluations; 5. Exploratory Factor Analysis (EFA), using principal components extraction and the Varimax rotation method, to identify the items that most contributed to the total score. The sphericity tests of Bartlett ($p < 0.05$) and Kaiser-Meyer-Olkin (KMO) (≥ 0.5) were calculated to verify the adequacy of the EFA model⁽¹¹⁾. Eigenvalues ≥ 1.0 and Screeplot (eigenvalue graph) were considered to establish the number of factors to be extracted. Factorial loadings ≥ 0.40 were retained. Were considered significant those communities > 0.50 ⁽¹¹⁾.

RESULTS

Evaluators (n=44) were mostly female (H_A = 25/31 and H_B = 12/13), with mean age of 29.7 (SD = 6.0 - H_A) and 30.6 (SD = 7.1 - H_B) years, and time of professional performance of 3.7 (SD = 2.4 - H_A) and 6.8 (SD = 5.8 - H_B) years. In the hospitals, the highest qualification was specialization H_A = 23/31 and H_B = 10/13).

138 evaluations of the product of nursing care were carried out, being 73 in H_A and 65 in H_B. The tool presented a Cronbach's Alpha of 0.71. Scores ranged from 14 (H_A) to 29 (H_B), with a mean value of about 24. The prevailing category was good - 47 (64.3%) and 49 (75.3%) - in both hospitals, with mean score of the items ranging from 3 (H_A) to 4 (H_B) (Table 1)

Regarding the classification of the product of care by inpatient unit, a higher frequency of the category "good" was observed in both hospitals: H_A - clinic 13/20, surgical 8/15, hematologic 13/21, bone marrow transplantation 13/17; H_B - pediatric intensive care 19/25, neonatal intensive care 12/15, maternity unit 6/10, and kangaroo unit 12/15.

The mean score ranged from 22.6 to 25.2 in H_A, and from 22.6 to 25.5 in H_B, in the gradations of 3 (H_A) to 4 (H_B). A statistical difference ($p < 0.01$) was found between the gradation in the hospital units. When analyzed separately, only H_B presented a statistical difference between units ($p < 0.01$).

In Table 2, one can observe the classification of the score obtained in the gradations per instrument item in the H_A units. There was variation in the gradations from 2, for the items "multidisciplinary interaction and performance" (3/4 units) and "care planning" (1/4), to 4, for items "resources required to providing care" (3/4), "patient/family care" (2/4) and "meeting/needs" (2/4).

Table 1 – Classification of the product of nursing care in the hospitals investigated, São José do Rio Preto, São Paulo, Brazil, 2016, N = 138

Classification	Hospital A n (%)	Hospital B n (%)	Total n (%)
Bad	-	-	-
Regular	18 (24.6)	11 (16.9)	29 (21)
Good	47 (64.3)	49 (75.3)	96 (69.5)
Great	8 (10.9)	5 (7.6)	13 (9.4)
Md Total Score (Q1; Q3)*	24 (21;26)	24 (22;26)	-
Md Score of the items (Q1; Q3)*	3 (2.5;3)	4 (3;4)	-

Note: *Md: Median. Q1; Q3: Quartiles.

Table 2 – Classification of the scores obtained in the gradations per instrument item and unit investigated in the Hospital A, São José do Rio Preto, São Paulo, Brazil, 2016, n = 73

Items*	Surgical	Clinic	Hematologic	BMT***
	Md (IQR)**	Md (IQR)	Md (IQR)	Md (IQR)
1 - Care planning	3 (1)	2 (2)	3 (1.5)	3 (2)
2 - Required resources	3 (1)	4 (1)	4 (1)	4 (1)
3 - Dimensioning	3 (1)	3 (0.7)	3 (1)	4 (3)
4 - Educational actions	3 (1)	3 (1.7)	3 (1)	3 (1.5)
5 - Monitoring	3 (1)	3 (1)	3 (1.5)	3 (1)
6 - Interaction/performance	2 (2)	3 (2)	2 (2)	2 (3)
7 - Patient/family care	3 (2)	3 (1)	4 (1)	4 (0.5)
8 - Meeting/needs	3 (0)	3 (1)	4 (1)	4 (1)

Note: *Items: 1 - Nursing care planning; 2 - Resources required to providing care; 3 - Dimensioning of nursing staff; 4 - Educational actions and professional development; 5 - Care monitoring and transfer; 6 - Multidisciplinary interaction and performance; 7 - Patient/family care; 8 - Meeting the care needs. **Md: Median; IQR: Inter-quartile range. ***BMT: Bone Marrow Transplantation.

Table 3 – Classification of the scores obtained in the gradations per instrument item and unit investigated in the Hospital B, São José do Rio Preto, São Paulo, Brazil, 2016, n = 65

Items*	Kangaroo	ICU Neo+	ICU Ped+ +	Maternity Unit
	Md (IQR)**	Md (IQR)	Md (IQR)	Md (IQR)
1 – Care planning	4 (1)	4 (1)	3 (1.5)	4 (1)
2 – Required resources	3 (1)	3 (1)	3 (0)	3 (0.7)
3 – Dimensioning	2 (1)	3 (1)	3 (1.5)	3 (0)
4 – Educational actions	4 (0)	3 (1)	3 (1)	3.5 (1.7)
5 – Monitoring	4 (2)	4 (1)	3 (0.5)	3 (1.7)
6 – Interaction/performance	4 (2)	2 (2)	2 (1.5)	3 (0.2)
7 – Patient/family care	4 (1)	3 (0)	3 (1)	3 (0.2)
8 – Meeting/needs	4 (0)	4 (1)	3 (1)	3 (1.7)

Note: *Items: 1 – Nursing care planning; 2 – Resources required to providing care; 3 – Dimensioning of nursing staff; 4 – Educational actions and professional development; 5 – Care monitoring and transfer; 6 – Multidisciplinary interaction and performance; 7 – Patient/family care; 8 – Meeting the care needs. **Md: Median; IQR: Inter-quartile range. +ICU Neo: Neonatal intensive care unit. ++ICU Ped: Pediatric intensive care unit.

Table 4 – Factorial loadings in the extraction by principal components analysis (PCA) with Varimax rotation of factor 1, São José do Rio Preto, São Paulo, Brazil, 2017, N = 138

Instrument items	Factorials Loadings	Commonalities
1 – Care planning	0.20	0.70
2 – Required resources	0.70	0.52
3 – Dimensioning	0.78	0.61
4 – Educational actions	0.05	0.71
5 – Monitoring	0.29	0.64
6 – Interaction/performance	0.26	0.53
7 – Patient/family care	0.49	0.46
8 – Meeting/needs	0.57	0.58

Note: *Items: 1 – Nursing care planning; 2 – Resources required to providing care; 3 – Dimensioning of nursing staff; 4 – Educational actions and professional development; 5 – Care monitoring and transfer; 6 – Multidisciplinary interaction and performance; 7 – Patient/family care; 8 – Meeting the care needs.

Table 5 – Association of the mean score of the tool “Assessment of the product of nursing care” with work shifts, São José do Rio Preto, São Paulo, Brazil, 2016, N = 138

Classification	Morning	Afternoon	Night	Total	p
H _A × H _B	45	46	47	138	0.01
– regular	13	12	4	29	
– good	30	28	38	96	
– great	2	6	5	13	
H _A	25	22	26	73	0.08
– regular	8	6	4	18	
– good	16	13	18	47	
– great	1	3	4	8	
H _B	20	24	21	65	0.10
– regular	5	6	-	11	
– good	14	15	20	49	
– great	1	3	1	5	

In H_B, the median gradations of items ranged from 2, for item “multidisciplinary interaction and performance” (2/4 units) and “dimensioning of nursing staff” (1/4), to 4, for “nursing care planning” (3/4), “monitoring” (2/4) and “meeting/needs” (2/4) (Table 3).

To identify the instrument items that most contributed to the total score, the EFA was conducted, considering all 138 evaluations performed. The KMO adequacy measure of the samples was 0.70, and the Bartlett’s sphericity test was significant (p < 0.01). Three factors with eigenvalues greater than 1.0 were extracted, supported by the Screeplot. The variance explained by them totaled 59.6%, represented by factors 1 (31%; eigenvalue 2.5), 2 (15.3%; eigenvalue 1.2), and 3 (13.3%; eigenvalue 1.1).

Only factor 1 was analyzed, due to the low factorial loadings found in the others.

The non-rotated correlation matrix identified 6/8 instrument items with significant factor loading. With the Varimax rotation method, in turn, it was possible to reduce this number to four (≥ 0.40): “dimensioning of nursing staff” (0.78), “resources required to providing care” (0.70), “meeting the care needs” (0.57), and “patient/family care” (0.49) (Table 4).

Regarding the association between demographic and professional variables and the total score, it was possible to note a correlation of -0.37 (p < 0.01) between mean score and age in H_A and of -0.23 (p < 0.05) when related to time in the institution. In H_B, a value of 0.29 (p < 0.05) was observed concerning time in the unit. There was no statistical difference among work shifts (morning, afternoon and night) when the hospitals were compared independently; there was significance (p = 0.01) only when analyzed together, and just for the night shift (p = 0.03) (Table 5).

DISCUSSION

Managerial instruments that address categories associated with care production, such as the APROCENF, allow identifying decisive aspects for the care, considering the particularities of each unit and/or hospital evaluated. Despite being tools recognized by subsidizing the professional practice of nurses, the APROCENF is a new tool that has yet to be studied in different scenarios, allowing the comparison between products generated and critical factors of the process. By using it in specialized units of two high-complexity hospitals, we could know the product generated by nursing and the critical factors of the caring process.

In these institutions, the product was classified as good in 69.5% of the evaluations, with a mean score close to 24 and variation from 14 to 32 points in H_A and from 17 to 29 in H_B. In both hospitals, the shifts were evaluated from regular to great, and regarding in-patient units, the total mean score ranged from 22.6 to 25.2 in H_A and from 22.6 to 25.5 in H_B, confirming the trend of evaluators to classify the shifts as “good”. Such homogeneity in the score of each instrument item and in the total score may reflect on its internal consistency, which was demonstrated by a Cronbach’s Alpha of 0.71. Values greater than 0.70 indicate the existence of reliability

between measures⁽¹¹⁾, and in the original study for the APROCENF validation the Cronbach's Alpha was 0.85⁽⁷⁾.

Yet, regarding the homogeneous characteristic of the data, it has been hypothesized that the participation of nurses as evaluators of their own shifts may lead to an association of the total score with their self-assessment. It is important to note that the evaluation method has the assignment of value as a characteristic and must be understood as a tool for transforming the work process⁽¹²⁾. Thus, at the time of prior awareness of the nurse on the use of APROCENF, its construct and aggregated values, it is recommended to clarify that it does not evaluate the professional performance. On the other hand, further studies may explore the perspective of different nursing professionals or undergrads, to compare and analyze various aspects.

Regarding the critical factors of nursing care production, there was a statistical difference ($p < 0.01$) among the gradation of each item in the units investigated. In this study, the item "multidisciplinary interaction and performance" obtained the lowest median (2) both in H_A (3/4 units) as in H_B (2/4 units), corroborating the findings of the verification of psychometric measures of the APROCENF⁽⁷⁾. This fact deserves attention, as this practice enables the autonomy of health professionals and favors the exchange of knowledge in order to qualify the care offered, especially in highly specialized units⁽¹³⁾. However, this interaction can be hindered due to the social and technical division of labor, lack of cooperation, and communication gaps among teams, in addition to deficiencies in working conditions⁽¹⁴⁾ and in the organization and management model of the unit⁽¹⁵⁾.

In contrast, the values ranged from 3 (4/8) to 4 (4/8) for the item "meeting the care needs." These gradations comprise meeting almost all (3) or all interventions planned (4); performing most (3) or all (4) activities of greater technical complexity that compete to the nurse, with moderate (3) or minimal (4) possibility of risks to the patients. This result is consistent with that shown in the validation study⁽⁷⁾, but may also represent the particularity of some units: hematologic, BMT kangaroo and neonatal ICU.

Hematological patients and those who demand hospitalization in the BMT often required complex care regarding nursing care, similar to intensive units, and need, therefore, a greater number of private interventions by nurses⁽¹⁶⁾. In the neonatal ICU, prematurity is the leading cause of hospitalization and, in addition to technological resources, the newborns demand specialized care and prioritized care of nurses on the technical activities⁽¹⁷⁾. On the other hand, the kangaroo method does not demand physical-structural investment, but requires training and organization of the nursing professionals, aiming at humanization and attention to the binomial⁽¹⁸⁾.

The "nursing care planning" was also evaluated with gradations from 3 (4/8) to 4 (3/8) in the units investigated. This care plan refers to the Nursing Process (NP), a working instrument of the nurse that requires clinical reasoning, systematization and formalization of the activities, and concerns the care organization. Understandings and definitions of this process are often confused with the Nursing Care Systematization (NCS), a method for NP operationalization. Such difficulty of understanding may cause limitations and lack of clarity in the nurse's performance⁽¹⁹⁾.

In this sense, as mentioned by a few participants, the item "nursing care planning" seems to have been associated to the NCS formalization, which is mandatory in both hospitals and carried out through a computerized system. This understanding may represent a bias in the assessment. Researchers identified that the nursing prescriptions held in electronic databases are not in total agreement with the needs of patients' care⁽²⁰⁾. In the construction of the scale, the APROCENF items and their gradations were considered to be self-explanatory and, therefore, were not individually defined. Nursing care planning involves many factors besides the NCS, and the gradations of this item approach the process systematization (verbally or formally recorded) from direct assessment (clinical visit) and supplementary information by the team (indirect evaluation).

The "dimensioning of nursing staff" considers the workload concerning the patients' needs and has an important influence on the security of healthcare⁽²¹⁾ and the (dis)satisfaction of nursing professionals⁽²²⁾. Most (6/8) evaluated this item as 3, that is, "the dimensioning of nursing staff is almost compatible with the workload and, for predicted or unpredicted absences, offers coverage through reassignments and/or extra hours of professional(s) with experience in the area." Only one unit (kangaroo) classified it with median 2, gradation which refers to lack of compatibility with the workload. Nonetheless, the other APROCENF items were evaluated with gradations between 3 (1/8) and 4 (6/8). In this case, even in the face of workload, the nursing seems to be able to assess, plan, monitor the care provided and carry out educational activities, also establishing a hospitable relationship with patients and family. These findings contradict other research⁽²³⁻²⁴⁾ that defend the correlation of the workload generated by a reduced number of nursing staff and the difficulty in supervising the care effectively with several risks in care provision.

The association between total score and professional and demographic variables was weak and negative in relation to age and time of performance in HA. These data allow deducing that the professional maturity and increased ties with the institution are related to the acquisition of skills for the critical analysis of work⁽²⁵⁾, tending to a low-score evaluation of the product of care. In HB, the correlation between mean score and time of performance in the unit was weak. We could note a statistical difference ($p = 0.01$) between working shifts in the joint analysis of hospitals, with a significant value for the night shift ($p = 0.03$). In the validation study, the product of nursing care tends to be better evaluated in the afternoon shift⁽⁷⁾.

The items that most contributed to the total scores in the institutions investigated were: "dimensioning of nursing staff" (0.78), "resources required to providing care" (0.70), "meeting the care needs" (0.57), and "patient/family care" (0.49). Different values from those of the validation study were found for NCS: "meeting the care needs" (0.79) and "patient/family care" (0.79), "care monitoring and transfer" (0.79) and "nursing care planning" (0.77)⁽⁷⁾. Therefore, it seems that, in inpatient units of specialized hospitals, structural factors (nursing staff and other resources) significantly contribute in the production of care, ensuring the quality of care and safety of patients⁽¹⁷⁾.

Hence, the practice seems to have an influence on the production of care. The identification of critical items of the working

process will only be possible if nurses take on their role in care management, using tools to assess the practice, organize activities, and improve the results, this reaffirming their protagonist role in the transformation of praxis, subsidized by evidence.

Study limitations

The evaluations were conducted in eight units of two specialized hospitals in the Northwest region of the State of São Paulo, to cover the possible specificities of different scenarios of practice. However, the amount of evaluations conducted, the number of evaluators between H_A and H_B and the inclusion of the care context of both hospitals may restrict the findings and differ from other services. The nurses' apprehension in evaluating their own performance and not their working environment, or even the association of the care plan with the NCS in computerized system, may also have interfered in the results.

Contributions to the fields of nursing, health, or public policy

Findings of this study highlight the particularities and convergence regarding the product of nursing care and the critical and related to this process in different specialized units and/or services, contributing to the comparison in different contexts of practice. The APROCENF has, as a proposal, the evaluation

of the nursing product delivered at the end of the working shift and the contributory items, instrumenting nurses for care management. It is also a guide for nurses and nursing students about the processes that make up their professional practice and, this, they shall be able to identify the strengths and weaknesses, planning strategies for improving each unit/service. Therefore, further studies should be carried out to verify its diagnostic quality, inter alia concerning the applicability of the instrument.

CONCLUSION

In both hospitals, the product delivered by nurses at the end of the working shift was considered mostly "good," with significant difference between the gradations of the units and among shifts when the institutions were analyzed together. The association between total score and professional and demographic variables was weak.

The evaluation of the product of nursing care in different inpatient units of specialized hospitals revealed critical aspects of the work and areas where interventions must be conducted. Thus, the APROCENF is confirmed as an important tool to subsidize the decision-making of nurses and the management of changes aimed at the best practices in health care.

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