DOI: 10.1590/S0080-623420130000400003

ORIGINAL ARTICLE

Reliability of an instrument to classify newborns according to care complexity*

CONFIABILIDADE DE UM INSTRUMENTO PARA CLASSIFICAR O RECÉM-NASCIDO SEGUNDO A COMPLEXIDADE ASSISTENCIAL

CONFIABILIDAD DE UN INSTRUMENTO PARA CLASIFICAR AL RECIÉN NACIDO DE ACUERDO CON LA COMPLEJIDAD DE LA ATENCIÓN

Caroline de Souza Bosco[1], Edi Toma[2], Sonia Maria Junqueira Vasconcellos de Oliveira[3], Maria Aparecida de Jesus Belli[4]

ABSTRACT

In most maternity units, the physician classifies, evaluates, and determines which unit will receive the newborn (NB) after birth. Evaluation occurs in the delivery room, taking into consideration the following factors: birth weight, gestational age, and behaviors that define the clinical picture and disease. This observational study evaluates the reliability of an NB classification instrument. The study was conducted at the nursery of a public hospital in São Paulo. Nine nurses applied the instrument to 63 NB, with two of the nurses working simultaneously in each of the nursery's five sectors. The Kappa level of agreement among the nurses was found to be excellent for most care areas (69.0%). It was concluded that there was a consensus and agreement among the nurses that the instrument was complete, easy to understand and applicable, but was very time consuming. The nurses recognize the instrument's importance for the allocation of professionals, organization, and care planning.

DESCRIPTORS

Infant, newborn
Classification
Neonatal nursing
Reproducibility of results
Nursing assessment

RESUMO

Na maioria das maternidades, a classificação, a avaliação e a definição da unidade a encaminhar o recém-nascido (RN) após o nascimento são realizadas pelo médico. A avaliação ocorre na sala de parto considerando: peso ao nascer; idade gestacional; condutas que definem quadro clínico e doença. Este estudo observacional teve como objetivo avaliar a confiabilidade de um instrumento de classificação de RN. A pesquisa foi realizada no berçário de um hospital público, São Paulo. Nove enfermeiras aplicaram o instrumento a 63 RN, sendo duas simultaneamente em cada um dos cinco setores do berçário. Verificou-se que o nível de concordância Kappa entre as enfermeiras foi excelente para a maioria das áreas de cuidado (69,0%). Concluiu-se que houve consenso e concordância das enfermeiras quanto ao instrumento ser completo, de fácil entendimento e aplicável, porém despende muito tempo. As enfermeiras reconhecem a importância do instrumento para o dimensionamento dos profissionais, organização e planejamento do cuidado.

DESCRITORES

Recém-nascido
Classificação
Enfermagem neonatal
Reprodutibilidade dos testes
Avaliação em Enfermagem

RESUMEN

En la mayoría de las maternidades la clasificación, la evaluación y la definición de la unidad para referir el recién nacido (RN), son realizadas por el médico. La evaluación se realiza en la sala de parto, considerando: peso al nacer, edad gestacional y conductas que definen el cuadro clínico y la enfermedad. Este estudio observacional tuvo como objetivo evaluar la confiabilidad de un instrumento de clasificación del RN. Fue realizada en el servicio de neonatología de un hospital público en Sao Paulo. Nueve enfermeras aplicaron el instrumento a 63 RN, siendo aplicados dos de forma simultánea en los cinco sectores de la unidad neonatal. El nivel de concordancia Kappa fue excelente para la mayoría de las áreas de atención (69,0%). Se concluyó que hubo consenso y concordancia entre las enfermeras, quienes expresaron que el instrumento es completo, fácil de entender y de aplicar, pero se necesita mucho tiempo. Las enfermeras reconocen la importancia de este instrumento para dimensionar el número de profesionales, la organización y la planificación de la atención.

DESCRIPTORES

Recién nacido
Clasificación
Enfermería neonatal
Reproducibilidad de resultados
Evaluación en enfermería

* Taken from the monograph "The care complexity level of newborns in a Neonatal Unit" ["Nível de complexidade assistencial dos recém-nascidos em uma Unidade Neonatal"], Program for Improvement in Neonatal Nursing at the University of São Paulo Medical School's Clinics Hospital, 2012.

[1] Neonatal Nurse. Master's degree student in the Graduate Nursing Program at the University of São Paulo Nursing School. CAPES scholarship. São Paulo, SP, Brazil. carolinebosco@usp.br [2] Neonatal Nurse. Head of the Clinics Hospital Maternity Unit Nursery at the University of São Paulo Medical School, SP, Brazil. editoma@uol.com.br [3] Obstetric Nurse. Associate Professor in the Department of Maternal-Infant Nursing and Psychiatry at the University of São Paulo Nursing School, São Paulo, SP, Brazil. soniaju@usp.br [4] Obstetric Nurse. Professor in the Obstetrics Course at the University of São Paulo School of Arts, Science and Humanities, São Paulo, SP, Brazil. m-belli@uol.com.br.

Received: 09/24/2012
Approved: 03/20/2013

OnLine Português / Inglês www.scielo.br/reeusp

INTRODUCTION

The challenge for professionals dealing with the management of hospital organizations is to reconcile cost reduction with improved quality of services and customer satisfaction[1].

The lack of financial resources in hospitals has generated a reduction in expenses and spending that is reflected in human resource policy, particularly with nurses, who represent the largest quantity of professionals within the organizations[2].

With a reduced number of professionals, managers are faced with an inadequate quantitative and/or qualitative allocation of human resources for nursing care, compromising the performance of care processes as well as the safety of patients and the staff who care for them[2].

Faced with this scenario, the management responsible for quantifying nursing professionals for safe patient care and managing the human resources under their responsibility needs instruments, such as the Patient Classification System (PCS)[3], to help in the planning, allocation, distribution, and control of the workforce, one of the most significant determinants of hospital effectiveness, quality, and cost.

The PCS is a method developed to determine, monitor, and validate the needs of individualized care by classifying patients into care groups or categories. It permits an assessment of the nursing efforts required, focusing on the quality of care provided[4-5].

Its use allows the grouping of patients by care complexity, observing the profile of each previously established group or category, improving the quality of care, distributing beds to meet the demand of patient groups, reallocating resources and manpower, detailing the system's operational dynamics, and monitoring productivity and the budgeting process[5].

Despite the benefits indicated, in most maternity units, the pediatrician or neonatologist classifies, evaluates, and determines which area will receive the newborn (NB) soon after birth. This evaluation routinely occurs in the delivery room, considering the variables such as birth weight; gestational age via the Capurro somatic method; and norms and behaviors defining the clinical picture or disease.

The same is the case with the allocation of the nursing staff providing NB care in the neonatal unit, who are distributed based on administrative criteria specific to each institution[6].

In the nursery under study, NB assessment is performed by the neonatologist according to the disease's degree of severity, and to date, there is no instrument used in nursing management practice to allocate nursing staff based on the complexity level of patients assigned to the unit.

In this sense, implementing the PCS within the unit will be an opportunity to improve the procedures, actions, and interventions targeted to ensure the quality of care, safety of neonates, and support in the management processes[6].

The PCS helps predict the work required relative to the available nursing staff and serves as an instrument for the manager to justify the need for more professionals when labor demand is greater. The PCS also helps in decisions about the recruitment and selection of nursing professionals[7]. Moreover, when using the PCS, the nursery would be in accordance with Resolution No. 7/10 of the National Health Surveillance Agency (ANVISA), which recommends that all neonatal units use an instrument for classifying patients[8].

Toledo and Fugulin[a] constructed an instrument in order to guide NB classification by care type and care complexity, and according to the individualized needs of nursing care. Later, this instrument was adapted by Bochembuzio[6] and validated by means of the Delphi technique, which considers the opinions of a group of judges who are experts on a particular subject[9,10].

...when using the PCS, the nursery would be in accordance with Resolution No. 7/10 of the National Health Surveillance Agency (ANVISA), which recommends that all neonatal units use an instrument for classifying patients.

This study evaluates the reliability and applicability of an instrument to classify newborns according to care complexity.

METHOD

This is an observational study conducted at the nursery of the Maternity Unit of the University of São Paulo's Clinics Hospital (HCFMUSP), which has been under the direction of the Children's Institute (ICRF-MUSP) since 2005. It is a tertiary level hospital, and the inpatient unit has 63 beds, which are divided into five sectors of neonatal care: low complexity (23 beds), medium risk (15 beds), high risk (9 beds), intensive care unit (ICU) I (8 beds), and ICU II (8 beds). The unit exclusively assists NB whose birth occurred in the institution. As mentioned in the introduction, NB classification is performed by the neonatologist without the nurse's participation.

The service has professional nursing staff consisting of 23 nurses, with one head nurse and one supervisor, and 50 nursing assistants. The shift is 12 h × 36 h, and the two administrative nurses work eight hours a day, one during the morning and another in the afternoon, Monday through Friday.

A convenience sample was used and involved nine nurses who worked during the day and were distributed among the sectors according to the daily schedule developed by the head nurse. To assess the instrument's reliability, two nurses simultaneously classified the NB in the same sector. This procedure was performed for five consecutive days, with one

[a] Toledo RB, Fugulin FMT. Patient classification system: constructing an instrument for a neonatal unit [Sistema de classificação de pacientes: construção de um instrumento para uma unidade de neonatologia]. Presented at the Program for Improvement in Neonatal Nursing at the University of São Paulo Medical School's Clinics Hospital, 2000.

sector assessed per day. It should be noted that there was a need for one nurse to evaluate the NB from two sectors.

The researcher approached each sector's two participating nurses in September 2011. The instructions for filling out the instrument were provided in printed form, explaining the procedures for its application.

To understand the profile of the NB in relation to care complexity, the classification instrument validated by Bochembuzio[6] was applied, which contains 16 care areas, each receiving a score ranging from 1 to 3. The care areas assessed were as follows: thermoregulation, weight, spontaneous activity, reaction to stimuli, skin color, tone, nutrition and hydration, eliminations, oxygenation, mucocutaneous integrity, body care, control of vital signs, tubes and drains, catheters, drug therapy, and health education[6].

The value obtained individually in each of these care areas is added, and the total obtained indicates a category: minimal care (16–26 points), intermediate care (27–37), and intensive care (38–48 points)[6].

The data for classifying the sectors were identified through the NB characteristics identified during physical examination, in the assessment of care recorded in the medical chart, and in the information obtained from the nursing staff about the care provided.

In order to evaluate the interobserver agreement, checking the degree of correspondence between independent assessments of two or more professionals is recommended[11]. Thus, the Kappa coefficient was used to measure agreement among them. To interpret the Kappa results, the following standards were adopted: a value above 0.750 represents excellent agreement, a value below 0.400 represents low agreement, and a value between 0.400 and 0.750 represents median agreement. The data obtained were analyzed according to the statistical package[12]. In all statistical analyses, a significance level of $p \leq 0.05$ was adopted.

In the second stage, the nurses were profiled through the nurses' completion of the questionnaire prepared for this study, with information regarding training and professional experience, and evaluation of the instrument's applicability. This questionnaire allowed the authors to evaluate whether the instrument reproduced the profile of the unit's NB and can be introduced into health care practice.

All participants signed an Informed Consent Form and received instructions for filling out the instrument. The study was approved by the HCFMUSP Research Ethics Committee (FR No. 0618/11).

RESULTS

Instrument reliability

The study included nine nurses providing direct care to NB in the HCFMUSP nursery during the day shift. The mean age of the participants was 31.5 years (standard deviation 11.3; median 28 years), and the average length of professional experience was 8.5 years (standard deviation 11.7; median 3 years). As to professional qualification, seven participants had taken *lato sensu* post-graduation courses in neonatal nursing, and one was pursuing *stricto sensu* post-graduate studies in nursing at the master's level.

Table 1 – Frequency of Kappa agreement and coefficient values and confidence intervals (CI) in the classification of newborns according to care complexity level - São Paulo, SP, Brazil, 2011.

Care areas	Agreement			Measures of Comparability	
	n	%	Kappa	p-value	CI (95%)
Thermoregulation	44	69.8	0.548#	<0.001	0.374; 0.721
Weight	–	–	1.000*	–	0.803; 1.000
Spontaneous activity	53	84.1	0.738#	<0.001	0.557; 0.917
Reaction to stimuli	55	8.3	0.785*	<0.001	0.605; 0.956
Skin color	58	92.1	0.755*	<0.001	0.555; 0.953
Tone	55	84.1	0.678#	<0.001	0.478; 0.878
Nutrition and hydration	61	96.8	0.948*	<0.001	0.769; 1.000
Eliminations	59	93.7	0.882*	<0.001	0.663; 1.000
Oxygenation	62	98.4	0.972*	<0.001	0.789; 1.000
Mucocutaneous integrity	52	82.5	0.617#	<0.001	0.417; 0.816
Body care	–	–	1.000*	–	0.753; 1.000
Control of vital signs	58	92.1	0.863*	<0.001	0.661; 1.000
Control of tubes and drains	57	90.5	0.823*	<0.001	0.642; 1.000
Control of venous catheters	52	82.5	0.969*	<0.001	0.784; 1.000
Drug therapy	35	55.6	0.648#	<0.001	0.436; 0.860
Health education	23	36.5	0.101&	0.180	0.110; 0.316

Agreement: *Excellent; #Median; &Low.

The data in Table 1 show that the level of Kappa agreement among the nurses was excellent for most care areas (11; 69.0%). There was complete agreement for the indicators of weight and body care, while the indicator of health education represented the lowest agreement among the nurses (36.5%).

Instrument applicability

Application time was the main complaint of the nurses evaluating the instrument, as shown in Table 2.

Table 2 – Evaluation of nurses regarding the characteristics of Bochembuzio's classification instrument. São Paulo, SP, Brazil. 2011.

Characteristics	Yes		No		Total	
	n	%	n	%	n	%
Complete	7	77.8	2	22.2	9	100
Easy to understand	6	66.7	3	33.3	9	100
Takes time	3	33.3	6	66.7	9	100
Is applicable	9	100	–	–	9	100

Participants characterized the instrument as applicable (9, 100%), complete (7, 77.8%), and easy to understand (6, 66.7%). However, about a third of them stated that the application of the instrument was time consuming. The average time spent by nurses to classify each patient ranged between 1 and 10 minutes, with duration between 5 and 10 minutes predominating.

The results in Table 3 show that, of the 16 indicators used for classification, the nurses found some difficulty in filling out the majority (10; 62.5%) of them. The items of weight, spontaneous activity, nutrition and hydration, eliminations, body care, and control of vital signs were identified as the easiest to understand. The health education item was the most difficult to understand.

When investigating the unit's use of PCS, all the nurses responded that they do not use it, the main reason being that it is not implemented in the unit (6, 66.7%). The most common way to assess NB care complexity was through pathology/medical diagnosis (5, 55.6%), followed by daily monitoring (2, 22.2%). In addition, two (22.2%) nurses cited that the care complexity assessment was not valid.

The nurses were also asked whether the results obtained by applying the instrument reproduced the profile of their unit's NB. Most (5, 55.6%) replied that it was not consistent with the unit's profile. The justifications given by nurses were as follows: three (33%) responded that, although the sector evaluated was classified as intermediary, there were newborns in the same sector that required intensive care; one (11%) said that there were few items containing a lot of information, which made the application difficult; and two (22%) said that the instrument's classification would depend on the day and the number of patients.

Table 3 – Indicators cited by the nurses as difficult to assess. São Paulo, SP, Brazil, 2011.

Indicators	Yes		No		Total	
	n	%	n	%	n	%
Thermoregulation	1	11.1	8	88.9	9	100
Weight	–	–	9	100	9	100
Spontaneous activity	–	–	9	100	9	100
Reaction to stimuli	1	11.1	8	88.9	9	100
Skin color	2	22.2	7	77.8	9	100
Tone	2	22.2	7	77.8	9	100
Nutrition and hydration	–	–	9	100	9	100
Eliminations	–	–	9	100	9	100
Oxygenation	1	11.1	8	88.9	9	100
Mucocutaneous integrity	1	11.1	8	88.9	9	100
Body care	–	–	9	100	9	100
Control of vital signs	–	–	9	100	9	100
Control of tubes and drains	2	22.2	7	77.8	9	100
Control of venous catheters	1	11.1	8	88.9	9	100
Drug therapy	1	11.1	8	88.9	9	100
Health education	5	55.6	4	44.4	9	100

After applying the instrument, a new classification of the nursery's five sectors would have to be proposed, i.e., maintaining the low complexity sector and grouping the high and medium risk NB in one category (intermediate care, which obtained 27 to 37 points), and the ICU I and ICU II sectors in intensive care (totaling 38–48 points), due to the score obtained when using the PCS.

DISCUSSION

This is the first study to apply the NB classification instrument developed by Toledo and Fugulin and validated by Bochembuzio[6]. To date, all the studies that have used instruments to classify NB and children indicated the need to develop a specific instrument to classify this population's degree of dependence on nursing care[13-15].

Our results, as those of other studies[14,16], showed that nurses do not use the PCS to support the allocation of personnel, as recommended by the Federal Nursing Council (COFEN – Conselho Federal de Enfermagem) Resolution No. 189/96 [17] and later the ANVISA Resolution No. 7/10[8], as classification is performed by means of an empirical procedure based on professional experience and the institution's rules.

In the first stage, 63 NB were individually evaluated by two nurses at the same time, and the study revealed that there was minimal NB care in a special care unit. The reason for this finding was that the hospital under study had no rooming-in program (RU), as required by Ministry of Health Ordinance No. 1016[18], which states that hospitals and maternity units linked to the Brazilian public health

system (SUS – Sistema Único de Saúde), whether they are run by the SUS or only associated with it, should implement the RU system.

It is important to stress that this does not preclude the need to observe these babies, as the study site is recognized as a benchmark for high-risk pregnancy.

Furthermore, the COFEN Resolution No. 293/2004 states that:

> § 7 - For nursery and pediatric inpatient units, unaccompanied newborns and children under six years of age should be classified with intermediate care needs[8].

Considering the Resolution, the minimal care category, as indicated by the instrument, does not apply to the nursery since only parents are allowed to visit the unit's NB, without the presence of a companion.

Classifying the nursery into three care sectors (minimal, intermediate, and intensive) instead of the current five sectors suggests that the instrument is unable to differentiate the admitted NB by severity levels.

The assessment of agreement among the nurses showed that the health education indicator had the lowest agreement and the nurses presented greater difficulty in classifying the NB. The reason was related to this indicator's degree of subjectivity, influenced by the nurse-family relationship.

In the second stage, it was possible to observe that, of the 16 indicators assessed, 10 were difficult to understand. This difficulty can be attributed to the inability of professionals to deal with the instrument: there was no detailed explanation of it made since its interpretation was also part of the assessment.

Another possible explanation was the existence of NB with different care complexity levels in a single sector, such as those admitted to the ICU II or those requiring intermediate care. This is due to the lack of space in certain sectors, requiring daily relocation of NB according to the demand for beds.

In order for classification systems to be reliable, it is important that instruments be easy to apply, comprehensive, accurate, and valid to avoid biases in the measurement of a phenomenon. This can happen when such systems consider the care provided to the detriment of that required by the patients, when the experience of professionals is ignored, or when indirect aspects of care and different dimensions of nursing practice are not considered[19].

Some nurses indicated the large amount of information contained in each item of the instrument as a difficulty. As seen in practice, the existing instruments are extensive, making them difficult to fill out. In the (ICU), this becomes a problem as the intensive labor demands greater agility of professionals, and as a result, easily applicable instruments are necessary. Furthermore, ICU patient complexity cannot always be determined by existing instruments, which limits their use[20].

In general, the nurses recognize the importance of the instrument for the allocation of professionals, organization, and care planning, but claim that one of its limitations is that it initially demands a long time to fill out. The main limitation identified in Bochembuzio's instrument[6] was a lack of clarity due to extensive and repetitive items, which hinder understanding.

CONCLUSION

In this study, Bochembuzio's NB classification instrument, according to the nurses' assessment, was considered complete, easy to understand, and applicable. However, they noted that its application requires a long period of time and that it needs to be modified in the health education area to be applied in care practice. The instrument's other care areas showed excellent agreement among the evaluators, indicating that it may be used in other hospitals.

Because this is a study performed in a tertiary hospital, which assists neonates in need of highly complex health services, it is suggested that the instrument be tested elsewhere in order to investigate and further improve its applicability to different neonatal profiles.

REFERENCES

1. Rogenski KE, Fugulin FMT. Índice de segurança técnica da equipe de enfermagem da pediatria de um hospital de ensino. Rev Esc Enferm USP. 2007;41(4):683-9.
2. Costa JA, Fugulin FMT. Atividades de enfermagem em centro de material e esterilização: contribuição para o dimensionamento de pessoal. Acta Paul Enferm. 2011;24(2):249-56.
3. Fugulin FMT, Rossetti AC, Ricardo CM, Possari JF, Mello MC, Gaidzinski RR. Nursing care time in the Intensive Care Unit: evaluation of the parameters proposed in COFEN Resolution Nº 293/04. Rev Latino Am Enferm. 2012;20(2):325-32.
4. De Groot HA. Patient classification system evaluation. Part 1: essential system elements. J Nurs Adm. 1989;19(6):30-5.
5. Giovannetti P. Understanding patient classification systems. J Nurs Adm. 1979;9(2):4-9.
6. Bochembuzio L, Gaidzinski RR. Instrumento para classificação de recém-nascidos de acordo com o grau de dependência de cuidados de enfermagem. Acta Paul Enferm. 2005;18(4):382-9.
7. Araujo VB, Perroca MG, Jerico MC. Variability in the complexity of patient's nursing care needs. Rev Latino Am Enferm. 2009;17(1):34-9.

8. Brasil. Ministério da Saúde. Agência Nacional de Vigilância Sanitária (ANVISA). Resolução n. 7, de 24 de fevereiro de 2010. Dispõe sobre os requisitos mínimos para funcionamento de Unidades de Terapia Intensiva e dá outras providências [Internet]. Brasília; 2010 [citado 2012 jun. 2]. Disponível em: http://www.amib.org.br/fileadmin/user_upload/amib/rdc07.pdf

9. Scarparo AF, Laus AM, Azevedo ALCS, Freitas MRI, Gabriel CS, Chaves LDP. Reflexões sobre o uso da técnica Delphi em pesquisas na enfermagem. Rev RENE. 2012;13(1):242-51.

10. Spínola AWP. Delphos: proposta tecnológica alternativa. São Paulo: [s.n.]; 1984.

11. Cervo AL, Bervian PA. Metodologia científica. 5aed. São Paulo: Pearson Prentice Hall; 2002.

12. De R Development Core Team. R: A language and environment for statistical computing. Version 2.11.1 [computer program]. Vienna: R Foundation for Statistical Computing; 2011.

13. Fugulin FMT, Gaidzinski RR, Kurcgant P. Sistema de classificação de pacientes: identificação do perfil assistencial dos pacientes das unidades de internação do HU-USP. Rev Latino Am Enferm. 2005;13(1):72-8.

14. Vigna CP, Perroca MG. Utilização do sistema de classificação de pacientes e métodos de dimensionamento de pessoal de enfermagem. Arq Ciênc Saúde. 2007;14(1):8-12.

15. Dini AP, Fugulin FMT, Veríssimo MDLO, Guirardello EB. Pediatric Patient Classification System: construction and validation of care categories. Rev Esc Enferm USP [Internet]. 2011 [cited 2012 July 16];45(3):575-80. Available from: http://www.scielo.br/pdf/reeusp/v45n3/en_v45n3a04.pdf

16. Santos F, Rogenski NMB, Baptista CMC, Fugulin FMT. Patient classification system: a proposal to complement the instrument by Fugulin et al. Rev Latino Am Enferm. 2007;15(5):980-5.

17. Conselho Federal de Enfermagem (COFEn). Resolução n. 189/96. Estabelece parâmetros para dimensionamento do quadro de profissionais de enfermagem nas instituições de saúde. In: Conselho Regional de Enfermagem de São Paulo (COREn-SP). Documentos básicos de enfermagem: enfermeiros, técnicos e auxiliares. São Paulo; 1997. p.77-80.

18. Brasil. Ministério da Saúde. Portaria n.1016, de 26 de agosto de 1993. Aprova as Normas Básicas para o Alojamento Conjunto [Internet]. Brasília; 1993 [citado 2012 jun. 2]. Disponível em: http://pnass.datasus.gov.br/documentos/normas/40.pdf

19. Tranquitelli AM, Padilha KG. Sistemas de classificação de pacientes como instrumentos de gestão em Unidades de Terapia Intensiva. Rev Esc Enferm USP. 2007;41(1):141-6.

20. Fugulin FMT, Gaidzinski RR, Kurcgant P. Sistema de Classificação de Pacientes: identificação do perfil assistencial dos pacientes das unidades de internação do HU-USP. Rev Latino Am Enferm. 2005;13(1):72-8.

Correspondence addressed to: Sonia Maria Junqueira V. de Oliveira
Escola de enfermagem, Universidade de São Paulo
Av. Dr. Enéas de Carvalho Aguiar, 419 - Cerqueira César
CEP 05403-000 - São Paulo, SP, Brazil