DOI: 10.4025/cienccuidsaude.v13i1.15959

REVIEW ARTICLE

DIMENSIONING OF NURSING STAFF: AN INTEGRATIVE REVIEW

Elisiane Lorenzini*
Lidiane Rossato Deckmann**
Tatiane Costa da Costa***
Eveline Franco da Silva****

ABSTRACT
The objective was to know the national scientific productions those address the scaling of nursing staff. It is an integrative review conducted from the Virtual Health Library. The data collection occurred in January 2012, using the descriptors: workload and nursing; dimensioning of the staff and nursing; classification and nursing; administration of human resources and nursing. The sample consisted of 37 articles. Most of the investigations took place in the area of nursing in intensive care, inpatient units and medical-surgical clinic. It is concluded that the dimensioning of staff helps to decrease the workload in nursing. The number of nurses working in institutions is lower than recommended by the Resolution of the Federal Nursing Council. It is believed that the development of studies on the correlation dimension of personal care and better outcomes, as well as the development of software and applications that facilitate the application of the formulas and calculations for dimensioning, which may contribute significantly to solidify the dimensioning as an important tool management in nursing.

Keywords: Nursing. Personnel Dimensioning. Workload.

INTRODUCTION

In Brazil and other countries of South America, much of the nursing workforce is composed of technicians and nursing assistants who provide patient care under the supervision and responsibility of the nurse. In the list of activities of these professionals are included less complex procedures such as hygiene and comfort of patients, the administration of the drugs, including intravenous. In these countries, the number of technicians and assistants is greater than the number of nurses, who work overseeing them, preparing care plans for patients and performing more complex procedures, such as passage of catheters and catheter insertion[1].

The dimensioning of nursing human resources permeates many spheres of complexity of care, such as quality of care, the workload, the customer satisfaction and cost containment[2].

Although the proposed methodologies to measure the workload in nursing[3-5], studies in Brazil show institutions with nursing staff less than expected to meet the needs in the biological and psychosocial care[4,6].

Several studies have shown a correlation between the reduced number of nurses and the worst results of care, such as infection related to health care, pneumonia and increased length of hospital stay[6-9]. Furthermore, there is evidence that the workloads are responsible for professional wear, influencing the occurrence of accidents, health problems and absenteeism[10,11].

The qualitative and quantitative distribution of these professionals in different work shifts is recommended by Resolution n° 293/2004, of the Federal Board of Nursing (COFEN)[3,12,13]. The applicability of this resolution was evaluated in a study that involved seven public and private hospitals of the city of São Paulo. This evidence shows that the average number of hours of care

* Nurse. Expert in Nursing Management. Master in Health Sciences, IC-FUC/RS. Doctoral Student, Nursing Post-Graduation Program, Universidade Federal do Rio Grande do Sul. Member of core studies about Nursing Management. NEGE-UFRGS. Professor of FEEVALE University. E-mail: elisilorenzini@gmail.com
** Nurse. MBA in Hospitalar Management. Manager of Psychiatry, General Hospital.Caxias do Sul/RS, Brasil.
*** Nursing Graduate. Faculdade Nossa Senhora de Fátima.
**** Nurse. Expert in Obstetrics and Public Health, emphasis in Family Health. Master student, Nursing Post-graduation Program, Universidade Federal do Rio Grande do Sul. Member of Study Group of Women's Health and the Baby. Professor, Nursing course, Faculdade Nossa Senhora de Fátima.

recommended by COFEN enables meeting the care needs of patients through the nursing process and provides important reference for the dimensioning of nursing professionals in hospitals[13].

To contribute to the research on this topic, the objective is to analyze the national scientific productions that addressed the sizing of the nursing staff.

METHOD

It is a bibliographical research of integrative review type, research method that allows the incorporation of evidence in clinical practice with the purpose to gather and synthesize research findings about a particular theme or issue, systematically and orderly[14].

To develop this study walked up the steps: formulation of the research question, data collection, evaluation, analysis and interpretation of data, presentation of results[14].To initiate the study was formulated the question: What nursing research has shown about the theme dimensioning of staff?

The data collection occurred through the Virtual Health Library, from LILACS, SciELO and BDEnf, using the descriptors: workload and nursing staff dimensioning and nursing classification and nursing resource management human and nursing.

The inclusion criteria were: only articles, published between 2000 and 2012, studies conducted in Brazil, published in Portuguese, full articles, available in databases. There were excluded repetitions found in the databases.

For examination and synthesis of selected articles was built a summary table with aspects considered relevant: article title, materials and methods, goals, results and considerations / findings.

Initially we identified 34 articles in the database LILACS, four in 33 BDEnf and SciELO. Applying the criteria established in the remaining 33 articles LILACS, four in 32 BDEnf and SciELO. Excluding the repetitions in databases, the sample represented 37 articles that fitted the inclusion criteria, which were read in their entirety.

The data used in this study were properly referenced, respecting and identifying the authors and other research sources, observing ethical rigor to the intellectual property of scientific texts surveyed, with regard to the use of content and citation of parts of works consulted[15].

RESULTS AND DISCUSSION

The sample consists of articles published in several nursing journals and an article published in a scientific journal, the thematic area of administration. The database with the largest number of articles on this topic was LILACS, with 33 articles. The periodical publication that leads to the theme was the *Revista da Escola de Enfermagem da USP*, with 13 articles.

The year was higher incidence of publications in 2007, with seven articles. From 2006 there was an increase in the number of publications on this topic, which may be related to the publication of Resolution COFEN in 293/2004, since some studies thereafter refer the resolution.

The main large studies involving a large number of patients , different systems of classification and measurement of workload and analysis of more than an inpatient facility [,] were performed in teaching hospitals (A03, A11, A12, A13, A15, A17, A18, A21, A26, A27, A30, A34, A35, A36) .

In general , research on the theme occur in the area of critical care nursing, with 12 studies, inpatient units , with eight studies, and medical-surgical, with five studies. In the intensive care unit, some studies (A01, A05, A07, A08, A11, A17, A19, A29, A33, A37) evaluate workload through *Nursing Activities Score* (NAS)[16-17] [,] while that other authors use the Patient Classification System (PCS). In inpatient units and medical-surgical clinic, is also used Patient Classification System (PCS).

For special units as Material and Sterilization Center (WEC), Obstetric Center (CO), a surgical emergency and no articles were found that used the classification according to functional sites, as envisaged in the resolution COFEN 293/2004[12]. In these areas, were found four studies (A31, A02, A32, A10), which focused on identifying and classifying the activities of nursing as a basis for defining the workload of the unit.

In 2000 was published the only study (A09) which analyzed the workload unit specializing in liver transplantation. Therefore, the authors used the Resolution COFEN in 189/1996 and concluded that the staff found to be adequate for resolution. However, the professionals' perception was that there was often large workload, leading them to believe that the staff of the unit was smaller than necessary, thus justifying the high rate of absenteeism. In this context , findings from a study published in 2012, which aimed to analyze the nursing practices in an ambulatory of specialties, corroborate the professionals' perception of work overload, it was revealed that the team was inadequate , compromising the quality care and generating discontent among professionals[18].

Public Consultation on sizing of staff to the nursing staff, proposed by COFEN, released in 2003, brought together scholars from Brazilian institutions for discussion on this subject. It resulted in the change of COFEN Resolution nº 189/96 and the publication of COFEN Resolution nº 293/2004[12]. Highlight the change in the number of hours for the care of high complexity within 24 hours of the day, from 15,4 hours to 17,9 hours per patient per day, as well as the guidance of the technical safety index (IST) is not less than 15%.

The study evaluated the applicability of this resolution showed that the average number of hours of care recommended in Resolution enables meet the care needs of patients through the nursing process, however, the IST was established empirically that the resolution does not include coverage of absences clearances corresponding to the holidays do not coincide with Sunday, and thus may not represent the reality of the institutions[13].

Studies analyzed (A15, A22) which aimed to compare the staff real with the ideal , designed by the calculations of Resolution , SCP and measurement of workload , show that there is a deficit in the number of people and large difference between the number of Resolution proposed by the nurses and the number found in the institutions[1,2]. This gap in the personnel of technical level was observed in both studies, but the first to have used the method recommended by the Federal Board of Nursing, and the second, the methodology proposed by the Network of Observatories of Human Resources for Health in Brazil[2].

Only three studies on sizing nursing in NICU and Pediatrics were located (A12, A13 and A14). One of them (A14) deals with the development of a specific SCP to classify the categories of care needs of patients in the NICU[19], however, were not found studies that used this CPS.

Accordingly, it is considered that the knowledge on the subject is still developing in this area of care, since the study (A13) used parameters COFEN Resolution 189/96, which was repealed, and the study (A14), which proposed ascertainment of compliance COFEN Resolution 293/2004, found that the NICU study met the standards of the Ministry of Health, however, this unity and the Health Ministry did not comply with the provisions of the Resolution. Confirms these data study published in 2013, which used the application of NAS in the neonatal unit, and revealed important gap professionals in relation to the high daily workload[20], which in the studied unit equals 21 hours of care per patient, while COFEN Resolution 293/04 calls for such care, 17,9 hours, Ordinance 3432/98 Ministry of Health[21] recommends 19,2 hours, and RDC 7/10[22],, 15-hour assistance.

In 2007 a study was published that aimed to identify the criteria used by managers and nurses for the design of nursing staff in nursing home care (AD). The criteria considered by managers and nurses in public and private services in AD, understand the patient's eligibility, the time spent in care and professional competence profile (A28).

Regarding the knowledge and applicability of scaling in everyday nurses, study (A25) performed with nursing coordinators, who addressed the sight of these on sizing nursing staff aimed to conceptualize and design of personal and reveal the purpose and use of estimation human resources in nursing, allowed the authors to conclude that the nurse has all the instrumentation used to use the sizing of the nursing staff. Professionals surveyed reported knowing their needs, but have failed to develop and implement this instrument to suit your quantitative human resources.

In this context, it is noteworthy that a study which aimed to measure and evaluate the adequacy of the framework for professional

nursing and its implications on the performance skills of nurses showed that the personnel dimension generates direct implications on the performance skills of a trader; therefore an inadequate sizing results in poorer quality of care[23].

It is considered that the necessary tools to perform the sizing of staff are not domain among most nurses. In everyday life the nurse, it is imperative that range changes in their practice by engaging with macro issues such as institutional policies, in order to integrate the goals of the organizations with the needs of the nursing staff[24]. Accordingly, nurses need to develop management competencies, which allow mobilizing and articulating, putting into action values, knowledge and skills for the excellent professional performance, producing satisfactory results, with efficiency and effectiveness[25].

Besides keeping the staffing adequate to the complexities of the patients and the workload that they pose to nursing staff sizing can be used as a tool to define the hiring of professionals to new hospitals. Decide the number of people who should be hired for the opening of a new institution is a complex challenge and likely consequences. The design staff can base the decision making[1]. Mainly due to budgetary reasons, the leaders still face resistance to adequate number of personnel to service demand in health care institutions[26].

The refinement of SCP is also of fundamental importance for the generation of valid and reliable data and facilitates its applicability to perform the calculation of the scaling. Study published in 2011[3] aimed to reconstruct the SCP proposed by Perroca[5], which contained 13 areas of care, and assessed the content validity of a new version which is now made up of nine areas of care.

The extensive formulas and calculations also hamper its use in everyday life. Studies show that the development of computer systems and applications is a major breakthrough for teaching and research in relation to the management of people (A06, A20). Note that the absence in the market, products that meet identified needs motivated the decision to develop a computerized system in an institution , however, the patient-nurse relationships and established nursing patient-technician/assistant not considered the SCP based if only in experience and empirical observation of the leaders (A20). In this context, the computer program, called Scaling Nursing Professionals - DIPE, is in technological innovation and is available via a free web platform (A6). This system provides the projection of the framework for professional nursing inpatient units of hospitals calculating : the distribution of the workload of nursing quantitative and qualitative proper respect for professionals/patients, the Technical Safety Index (STI) to cover planned absences (days off and vacation) and unplanned (absences and leaves) and time spent in the working day for the employee breaks.

CONCLUSION

The research on the topic of personnel dimension, in general, aims to contribute to the proper adjustment of the workload in nursing. Recent evidence shows that nursing remains overloaded with work and did not fit in the COFEN Resolution 293/2004, especially regarding the percentage of nurses, often much lower than recommended by the classification of care needs of patients.

It is considered that the studies in special areas and in home care are still incipient. Also the challenge remains to develop works that address the sizing of staff regarding the performance of nursing in primary health care.

It is believed that the development of studies on the correlation dimension of personal care and better outcomes, as well as the development of software and applications that facilitate the application of the formulas and calculations for sizing may contribute significantly to solidify the design as an important tool management in nursing.

This study identified areas of nursing that still require research on the design staff. From this review let’s say that the sizing of the nursing staff is on a tool to be used in teaching, for their application in clinical practice of nurses.

DIMENSIONAMENTO DE PESSOAL DE ENFERMAGEM: REVISÃO INTEGRATIVA

RESUMO

Objetivou-se conhecer as produções científicas nacionais que abordam o dimensionamento de pessoal de enfermagem. Trata-se de uma revisão integrativa realizada a partir da Biblioteca Virtual em Saúde. A coleta de dados ocorreu em janeiro de 2012, utilizando-se os descritores: carga de trabalho e enfermagem; dimensionamento de pessoal e enfermagem; classificação e enfermagem; administração de recursos humanos e enfermagem. A amostra constituiu-se de 37 artigos. A maioria das investigações ocorreu na área de enfermagem em terapia intensiva, unidades de internação e clínica médico-cirúrgica. Conclui-se que o dimensionamento de pessoal contribui para diminuir a carga de trabalho na enfermagem. O número de enfermeiros que atuam nas instituições é menor do que o recomendado pela Resolução do Conselho Federal de Enfermagem. Acredita-se que o desenvolvimento de estudos sobre a correlação dimensionamento de pessoal e melhores resultados assistenciais, assim como o desenvolvimento de *softwares* e aplicativos que facilitem a aplicação das fórmulas e cálculos para o dimensionamento, que poderão contribuir de forma significativa para solidificar o dimensionamento como importante ferramenta no gerenciamento da enfermagem.

Palavras-chave: Enfermagem. Dimensionamento de Pessoal. Carga de Trabalho.

DIMENSIONAMIENTO DE PERSONAL DE ENFERMERÍA: REVISIÓN INTEGRADORA

RESUMEN

El objetivo fue de conocer las producciones científicas nacionales que abordan el dimensionamiento de personal de enfermería. Se trata de una revisión integradora realizada a partir de la Biblioteca Virtual en Salud. La recolección de datos ocurrió en enero de 2012, utilizándose los descriptores: carga de trabajo y enfermería; dimensionamiento de personal y enfermería; clasificación y enfermería; administración de recursos humanos y enfermería. La muestra se constituyó de 37 artículos. La mayoría de las investigaciones ocurrió en el área de enfermería en cuidados intensivos, unidades de hospitalización y clínica médico-quirúrgica. Se concluye que el dimensionamiento de personal contribuye para disminuir la carga de trabajo en la enfermería. El número de enfermeros que actúan en las instituciones es menor que el recomendado por la Resolución del Consejo Federal de Enfermería. Se cree que el desarrollo de estudios sobre la correlación dimensionamiento de personal y mejores resultados asistenciales, así como el desarrollo de *softwares* y aplicativos que facilitan la aplicación de las fórmulas y cálculos para el dimensionamiento, podrán contribuir de forma significativa para solidificar el dimensionamiento como una herramienta importante en la gestión de enfermería.

Palabras clave: Enfermería. Dimensionamiento de Personal. Carga de trabajo.

References - Presentation-sample of articles included in the study, according to code (CODE) using A of article, followed by numerical order, for easy identification in the text, title, year of publication and journal.

A01-Fatores associados à carga de trabalho de enfermagem em Unidade de Terapia Intensiva. 2007. Rev Esc Enferm USP;

A02-Atividades de enfermagem em centro de material e esterilização: contribuição para o dimensionamento de pessoal. 2011. Acta Paul Enferm;

A03-Dimensionamento de pessoal de enfermagem em um hospital universitário. 2005. Rev Bras Enferm;

A04-Cargas de trabalho e condições de trabalho da enfermagem: revisão integrativa. 2011. Rev Gaucha Enferm;

A05-Carga de trabalho de enfermagem requerida por adultos, idosos e muito idosos em Unidade de Terapia Intensiva. 2009. Rev Esc Enferm USP;

A06-Dimensionamento informatizado de profissionais de enfermagem: inovação tecnológica. 2009. Rev Esc Enferm USP;

A07-Dimensionamento de pessoal de enfermagem em Unidade de Terapia Intensiva para adultos. 2010. Acta Paul Enferm;

A08-Carga de trabalho de enfermagem para quantificar proporção profissional de enfermagem/paciente em UTI cardiológica. 2008. Rev Esc Enferm USP;

A09-Dimensionamento de pessoal de enfermagem em uma unidade especializada em transplante de fígado: comparação do real com o preconizado. 2000. Rev Esc Enferm USP;

A10-Caracterização do perfil assistencial dos pacientes adultos de um pronto socorro. 2010. Rev Bras Enferm;

A11-Dimensionamento de pessoal de enfermagem em um hospital de ensino. 2006. Rev Bras Enferm;

A12-Dimensionamento de pessoal de enfermagem em UTI-neonatal de hospital

público federal de ensino. 2011. Cogitare Enferm;

A13-Dimensionamento de pessoal de enfermagem: análise do tempo efetivo de trabalho das enfermeiras da UTI pediátrica do HU-USP. 2004. Rev Gaucha Enferm;

A14-Instrumento para classificação de recém-nascidos de acordo com o grau de dependência de cuidados de enfermagem. 2005. Acta Paul Enferm;

A15-Dimensionamento de enfermagem hospitalar: modelo OPAS/OMS. 2011. Texto Contexto Enferm;

A16-Planejamento de recursos humanos de enfermagem: desafio para as lideranças. 2009. Rev Esc Enferm USP;

A17-Dimensionamento de pessoal de enfermagem na unidade semi-intensiva de um hospital universitário de Curitiba. 2007. Cogitare Enferm;

A18-Dimensionamento da equipe de enfermagem na clínica médico-cirúrgica em um hospital de ensino. 2007. Cuid Arte Enferm;

A19-Número de horas de cuidados de enfermagem em unidade de terapia intensiva de adultos. 2007. Rev Esc Enferm USP;

A20-Implantação de sistema informatizado para planejamento, gerenciamento e otimização das escalas de enfermagem. 2009. Acta Paul Enferm;

A21-Dimensionamento de pessoal de enfermagem em um hospital de ensino. 2006. Rev Bras Enferm;

A22-Estimativa do quadro de pessoal de enfermagem em um novo hospital. 2011. Rev Lat Am Enfermagem;

A23-Reestruturação do quadro de pessoal de enfermagem e seu impacto sobre as horas de assistência. 2010. Rev Lat Am Enfermagem;

A24-Distribuição do tempo das enfermeiras: identificação e análise em unidade médico-cirúrgica. 2009. Rev Esc Enferm USP;

A25-Visão de coordenadores de enfermagem sobre dimensionamento de pessoal de enfermagem: conceito, finalidade e utilização. 2007. Rev Lat Am Enfermagem;

A26-Caracterização dos pacientes internados nas unidades médicas e cirúrgicas do HCFMRP-USP, segundo o grau de dependência em relação ao cuidado de enfermagem. 2004. Rev Lat Am Enfermagem;

A27-Dimensionamento de pessoal de enfermagem em um hospital universitário. 2002. Rev Lat Am Enfermagem;

A28-Proposta de modelo para dimensionamento do pessoal de enfermagem em assistência domiciliária. 2007. Rev Esc Enferm USP;

A29-Administração do tempo nas atividades de enfermagem de uma UTI. 2004. Rev Bras Enferm;

A30-Comparação de diferentes parâmetros para dimensionamento da equipe de enfermagem em um hospital universitário. 2005. Rev Adm Saúde;

A31-Dimensionamento de pessoal de enfermagem em centro cirúrgico. 2006. Rev Gaucha Enferm;

A32-Distribuição do tempo de trabalho das enfermeiras em Unidade de Emergência. 2010. Rev Esc Enferm USP;

A33-Sistemas de classificação de pacientes como instrumentos de gestão em Unidades de Terapia Intensiva. 2007. Rev Esc Enferm USP;

A34-Tempo de assistência de enfermagem em instituição hospitalar de ensino. 2011. Rev Esc Enferm USP;

A35-Dimensionamento de pessoal de enfermagem em um hospital de ensino. 2006. Rev Bras Enferm;

A36-Dimensionamento de pessoal de enfermagem: parâmetros, facilidades e desafios. 2009. Cogitare Enferm;

A37-Número de horas de cuidados de enfermagem em unidade de terapia intensiva de adultos. 2005. Rev Esc Enferm USP.

REFERENCES

1. Rossetti AC, Gaidzinski RR. Estimating the nursing staff required in a new hospital. Rev lat am enfermagem. 2011; 19(4):1011-7.

2. Vituri DW, Lima SM, Kuwabara CCT, Gil RB, Évora YDM. Dimensionamento de enfermagem hospitalar: modelo OPAS/OMS. Texto Contexto Enferm. 2011; 20(3):347-56.

3. Perroca MG. Desenvolvimento e validação de conteúdo da nova versão de um instrumento para classificação de pacientes. Rev lat am enfermagem. 2011; 19(1):58-66.

4. Fugulin FM, Gaidzinski RR, Kurcgant P. Sistema de classificação de pacientes: identificação do perfil assistencial dos pacientes das unidades de internação do HU-USP. Rev lat am enfermagem. 2005; 13(1):72-8.

5. Perroca MG. Instrumento de Classificação de Pacientes de Perroca: validação clínica [tese]. São Paulo: Universidade São Paulo; 2000.

6. Krokoscz DVC. Efeitos da alocação de pessoal e carga de trabalho de enfermagem nos resultados da assistência em unidades de internação médico-cirúrgicas [dissertação]. São Paulo: Universidade de São Paulo; 2007.

7. Magalhães AMM, Dall'Agnol CM, Marck PB. Nursing workload and patient safety - a mixed method study with an ecological restorative approach. Rev latino am enfermagem. 2013; 21(n. spe):146-54.

8. Needleman J, Buerhaus P, Mattke S, Stewart M, Zelevinsky K. Nurse-staffing levels and the quality of care in hospitals. N Engl J Med. 2002; 346(22):1715-22.

9. Jackson M, Chiarello LA, Gaynes RP, Gerberding JL. Nurse staffing and healthcare-associated infections: proceedings from a working group meeting. Am j infect control. 2002; 30(4):199-206.

10. Schmoeller R, Trindade LL, Neis MB, Gelbcke FL, Pires DEP. Cargas de trabalho e condições de trabalho da enfermagem: revisão integrativa. Rev gaucha enferm. 2011; 32(2):368-77.

11. Martinato MCNB, Severo DF, Marchand EAA, Siqueira HCH. Absenteísmo na enfermagem: uma revisão integrativa. Rev gaucha enferm. 2010; 31(1):160-6.

12. COFEN - Conselho Federal de Enfermagem. Resolução n 293 de setembro de 2004. Fixa e estabelece parâmetros para dimensionamento do quadro de profissionais de enfermagem nas instituições de saúde e assemelhados. [on-line]. 21 set 2004 [acesso 2012 jan 12]. Disponível em: http://site.portalcofen.gov.br/node/4329

13. 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 enfermagem. 2012; 20(2):325-32.

14. Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. Texto & contexto enferm. 2008; 17(4):758-64.

15. Gil AC. Como elaborar projetos de pesquisa. 4ª ed. São Paulo: Atlas; 2002.

16. Inoue KC, Kuroda CM, Matsuda L. Nursing Activities Scores (NAS): Carga de trabalho de enfermagem em UTI e fatores associados. Cienc cuid saude. 2011; 10(1):134-40.

17. Feitosa MC, Leite IRL, Silva GRF. Demanda de intervenções de enfermagem a pacientes sob cuidados intensivos: NAS - Nursing Activities Score. Esc Anna Nery. 2012; 16(4): 682-8.

18. Pinto IC, Marciliano CSM, Zacarias FCM, Stina APN, Passeri IAG, Bulgarelli AF. As práticas de enfermagem em um ambulatório na perspectiva da integralidade. Rev latino am enfermagem. 2012; 20(5):909-16.

19. 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.

20. Nunes BK, Toma E. Dimensionamento de pessoal de enfermagem de uma unidade neonatal: utilização do Nursing Activities Score. Rev latino am enfermagem. 2013; 21(1):348-55.

21. Ministério da Saúde (BR). Portaria nº 3432, de 12 de agosto de 1998. Estabelece critérios de classificação para as Unidades de Tratamento Intensivo - UTI. 1998. [2013 ago 12]. Disponível em:http://dtr2001.saude.gov.br/sas/PORTARIAS/PORT98/GM/PRT-3432.pdf

22. Agência Nacional de Vigilância Sanitária (BR). Resolução nº 7, de 24 de fevereiro de 2010. Dispõe sobre os requisitos mínimos para funcionamento de Unidades de Terapia Intensiva e dá outras providências. 2010. [citado 2013 ago 15]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/anvisa/2010/res007_24_02_2010.

23. Maya CM, Simões ALA. Implicações do dimensionamento do pessoal de enfermagem no desempenho das competências do profissional enfermeiro. Rev bras enferm. 2011; 64(5):898-904.

24. Lorenzini E, Macedo T, Silva EF. Liderança na prática disciplinar de enfermagem: percepção de acadêmicos. Rev Enferm UFPE on line [on-line]. 2013 [citado 2013 jul 6]; 7(7) :4689-95. Disponível em: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/viewFile/4335/pdf_2904

25. Deckman LR, Deon SMP, Silva EF, Lorenzini E. Competência gerencial na enfermagem: uma revisão integrativa. Gestão e Saúde. 2013; 4(2):389-400.

26. Magalhães AMM, Riboldi CO, Dall'agnol CM. Planejamento de recursos humanos de enfermagem: desafio para as lideranças. Rev bras enferm. 2009; 62(4):608-12.

Corresponding author: Elisiane Lorenzini. Rua Felipe dos Santos, 77 Padre Réus, São Leopoldo. CEP: 9320-180. RS, Brasil.

Submitted: 05/02/2012
Accepted: 07/10/2013