

Professional competences of nurse to work in Intensive Care Units: an integrative review¹

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This study aimed to identify and analyze nurses' competences to work at Intensive Care Units-ICU. An integrative review method was used, and data were collected in LILACS, SciELO and BDNF, from August to October 2010. Ten articles were identified, published in the last 12 years. Data grouping permitted the construction of thematic units related to nurses' competences: nursing care management, high-complexity nursing care delivery, decision making, leadership, communication, continuing/permanent education, human resource management, material resource management. The professional competences identified can support the outline of guidelines to constitute the profile of nursing working in intensive care units and drive/mobilize the improvement of nursing care practices.

Descriptors: Professional Competence; Nurses, Male; Intensive Care Units.

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Competência profissional do enfermeiro para atuar em Unidades de Terapia Intensiva: uma revisão integrativa

Este estudo teve como objetivo analisar as competências profissionais dos enfermeiros em Unidades de Terapia Intensiva (UTI). Utilizou-se o método de revisão integrativa, e a coleta de dados foi realizada nas bases de dados LILACS, SciELO, BDEF, nos meses de agosto a outubro de 2011. Foram identificados 10 artigos, publicados nos últimos 12 anos, e o agrupamento dos dados possibilitou a construção de unidades temáticas relacionadas às competências dos enfermeiros: gerenciar o cuidado de enfermagem, executar o cuidado de enfermagem de maior complexidade, tomada de decisão, liderança, comunicação, educação continuada/permanente, gerenciamento de recursos humanos e de recursos materiais. As competências profissionais identificadas podem oferecer subsídios para traçar diretrizes para a construção do perfil do enfermeiro que atua em unidades de terapia intensiva e impulsionar/mobilizar as práticas de cuidado por esse profissional.

Descritores: Competência Profissional; Enfermeiros; Unidades de Terapia Intensiva.

Competencias profesionales de los enfermeros para trabajar en Unidades de Cuidados Intensivos: una revisión integradora

Este estudio tuvo como objetivo identificar y analizar las competencias de las enfermeras para actuar en Unidades de Cuidados Intensivos-UCI. Se utilizó el método de revisión integradora, y la recolección de datos se realizó a través de la base de datos LILACS, SciELO BDEF, entre agosto y octubre de 2010. Se identificaron 10 artículos, y el cotejo de los datos permitió la construcción de las siguientes unidades temáticas relacionadas con las habilidades de las enfermeras: gestionar los cuidados de enfermería, realizar los cuidados de enfermería más complejos, la toma de decisiones, el liderazgo, la comunicación, la educación continua y permanente y la gestión de recursos humanos y materiales. Las habilidades identificadas en este estudio sirven como una guía para formar el perfil de la enfermera que trabaja en unidades de cuidados intensivos-UCI y por lo tanto representan la línea de orientación que puede aumentar/mobilizar la mejoría de las prácticas de atención recibidas por este profesional.

Descritores: Competencia Profesional; Enfermeros; Unidades de Cuidados Intensivos.

Introduction

The singularity of hospital organizations has been highlighted. Care is delivered to clients in increasingly critical health situations, which demand individual and complex answers in compliance with their needs. Thus, hospital work requires new competences from professionals, who face technological changes and client requirements, often provoking transformations in their work process.

Over the years, the theme "professional competency" has been a focus of nursing and health service management attention as, in quantitative terms, the nursing staff represents a significant part of human

resources at these institutions. Therefore, they interfere directly in the efficacy, quality and cost of health care delivery. Hence, mobilizing these professionals' competences can significantly influence the obtained results.

In the nursing work process at hospital units, nurses have been in charge of care delivery to the most severe patients, besides service organization and coordination activities, sharing care and management activities.

The care and management processes can be considered the main dimensions of daily nursing work. Care is characterized by observation, data survey,

planning, implementation, evolution, assessment and interaction among patients and nursing workers and among different health professionals. The management process, on the other hand, focuses on care organization and nursing staff qualification through continuing education, using management models and methods, the nursing workforce and permanent equipment and material⁽¹⁾.

Independently of the diagnosis or clinical context, nurses should be apt to deliver care to all patients, including those hospitalized at Intensive Care Units (ICU), hospital units for care delivery to severe and recoverable patients. Nurses and their team are constantly confronted with life and death and, due to the place's technological and scientific characteristics, highly complex technical procedures need to be prioritized, fundamental to maintain human beings' lives⁽²⁾.

In line with this fact, researchers appoint that nurses' role at intensive care units is to obtain the patient's history, do a physical examination, perform the treatment, advise and teach how to maintain health and direct patients to continue treatment. ICU nurses should also link their (essential) theoretical background with work, discernment, initiative, teaching skills, maturity and emotional stability⁽³⁾.

In view of these considerations, it is highlighted that, beyond adequate qualification, ICU nurses need to mobilize specific professional competences when performing their work, with a view to effective performance, combining scientific technical knowledge, mastery of technology, humanization, care individualization and, consequently, high-quality care delivery.

In view of the above, the following question is asked: What professional competences do nurses need who work at an intensive care unit?

Nurses represent a fundamental part of the hospital organization structure and, hence, need to be concerned with their development and gain new skills and knowledge. At an ICU, nurses' action possibilities and diverse and complex activities show the need to identify these professionals' competences, contributing to a critical analysis of how they develop their activities and provoking managers' reflection on the importance of elaborating strategies to develop professional competences that enhance work organization and care excellence.

This study aimed to analyze nurses' professional competences to work at intensive care units.

Theoretical Framework

The competency notion is highly polysemic, in the job world as well as in education. Fleury and Fleury propose a concept that is at the same time comprehensive and precise, in which competency is defined as a responsible and acknowledged know-how, which implies mobilizing, integrating knowledge, resources, skills, which at the same time add economic value to the organization and social value to the individual⁽⁴⁾.

Saul Meghnagi, a representative from constructivism and social interactionism⁽⁵⁾, has been studying professional competency since the end of the 1980's and present a research model in professional education from the workers' perspective, which the present study is based on. According to that author, professional competency can be described as an articulated and complex combination of skills and capacities that result from a conceptual and functional synthesis of theoretical aspects, particularly linked with disciplinary contents and current experience. It exists in coherent forms and is particularly affected by the organizational environment. It shows a level of sophistication that depends on the objective reality and the subjective capacity to analyze, understand and influence the environment itself, and can develop in different ways and places that are not necessarily meant for education⁽⁶⁾.

In Brazil, the current National Curricular Guidelines (NCG) for Undergraduate Nursing Programs try to orient towards management competences future nurses need to achieve, such as health care, decision making, communication, leadership, administration and management and permanent education⁽⁷⁾.

In this sense, research has been developed about nurses' professional competency, among which one study is highlighted about nurses' management competences related to the training institution and job market's expectations⁽⁸⁾. Divergences were observed in nursing service managers' expectations, which prefer nurses with specific education for their services' needs.

Nurses' work at an Intensive Care Unit (UCI) is characterized by complex care and management activities, which demand technical and scientific competency, and whose decision making and adoption of safe conducts are directly related to people's life and death. In this context, it is extremely important to identify these professionals' competences in high-complexity nursing care, like at the ICU.

Method

To reach this aim, the integrative review method was chosen, as this is the broadest review method, permitting the inclusion of experimental and non-experimental studies for a complete understanding of the phenomenon under analysis. It combines theoretical and empirical literature data, besides incorporating a wide range of proposals: concept definition, review of theory and evidence, and analysis of methodological problems with regard to a particular topic⁽⁹⁾.

The bibliographic survey covered the Virtual Health Library, specifically the Latin American and Caribbean Literature on Health Sciences (LILACS), the Specialized Bibliographic Brazilian Nursing database (BDENF) and the Scientific Electronic Library online (SciELO).

To survey the articles, the following Health Science Descriptors (Decs) were used: nurses, professional competency, intensive care unit and nursing. The selected descriptors were mutually combined, according to the database.

Inclusion and exclusion criteria were adopted to recover the studies. The inclusion criteria were: papers published in the last 12 years in national and international journals, indexed in the selected databases, which discussed nurses' competences to work at intensive care units. Works like dissertations, theses, books and book chapters were excluded, so as to select only publications in indexed journals.

The following phases were followed to put this review in practice: selection of the thematic question, establishment of sample selection criteria, analysis and interpretation of the results and presentation of the review.

Data were collected between August and October 2010. The premises of professional competency were used for the analysis. In that sense, the analysis permitted grouping the data into thematic units, related to the nurses' competences to work at ICU, such as: Nursing care management, implementation of high-complexity nursing care, decision making, nursing leadership, communication, continuing/permanent education, human resource management and material resource management.

Results and Discussion

Study characteristics

The selected studies were written in Portuguese, totaling 10 papers; They were published between

1998 and 2010 in Brazilian journals, some of which circulate internationally, including: *Rev. Latino-Am de Enfermagem*, *Acta Paulista de Enfermagem*, *Rev. Fortaleza*, *Rev. Enfermagem UERJ*, *Nursing* (São Paulo) and *Rev. Gaúcha de Enfermagem*. The descriptors the authors of the papers used most were intensive care units, nurses, nursing team, health management, and the place of study was the Intensive Care Unit.

The analysis of the most frequent research designs in the study sample shows that six used the qualitative and four the quantitative methodological approach. Among qualitative studies, the most used methods were descriptive and exploratory and, among quantitative ones, non-experimental, descriptive, exploratory and cross-sectional methods. In that sense, the focus of this study can be analyzed through different methodological designs.

Nursing competences to work at ICU

Nursing care management

Nursing workers display different education degrees and work is organized through task division, guaranteeing nurses the role of knowledge detainers and work process controllers. Thus, nurses perform intellectual work and manage care delivery. At ICU, according to selected studies, nurses' function is to organize and plan the work that needs to be done, during their own and often during their colleague's shift^(2,10). Hence, among other activities, ICU nurses are responsible for patient assessment, care planning, care supervision, besides bureaucratic and administrative tasks⁽¹¹⁾.

The Law that rules on Professional Practice, No. 7498/86, art.11 paragraph c, establishes that nurses should practice all nursing activities. They are responsible for: 1) privatively: planning, organization, coordination, execution and assessment of nursing care services⁽¹²⁾. Thus, since 1986, care planning has been obliged by law, reinforcing the importance of and need to plan nursing care. Federal Nursing Council Resolution No. 272/2002 poses that Nursing Care Systemization (NCS) should be implanted at all, public and private, health institutions⁽¹³⁾ and that nurses' private actions include the implantation, planning, organization, execution and assessment of the nursing process.

In 2009, COFEN Resolution No. 358/2009⁽¹⁴⁾ revoked COFEN Resolution No. 272/2002. According to the new resolution, NCS should be deliberately and systematically practiced in all environments in which professional nursing care is delivered.

In line with one selected study, at the ICU, NCS starts when the patient is hospitalized, when the nurses perform a physical examination and the interview, using a form (nursing history). The NCS was described because it permits controlling the delivery of the prescribed care actions, because it directs care, enhancing action planning, continuity and guaranteeing that interventions will be performed and not modified⁽¹⁰⁾.

High-complexity nursing care delivery

ICU patient care is an activity distributed among all health team members, and thus also a nursing task. At the hospital unit under analysis, Two studies evidenced that care is the start of tasks^(2,10), as the nature of nursing work requires attendance to different care demands, related with the complexity of care delivery and the work environment.

The Law that rules on Professional Practice, No. 7498/86 poses that it is a particular task of nurses to deliver care of greater technical complexity and which demands scientific knowledge and immediate decision-making skills⁽¹²⁾.

In nursing care delivery to highly complex patients, like at ICU, nurses get involved, achieve self-accomplishment, learn how to exercise their commitment, enhancing a tight relation with the patient and, consequently, contributing to high-quality care. Hence, in this environment, nursing work does not boil down to articulating the different work means of the health and nursing team, but also involves the direct delivery of more complex patient care.

Decision making

The nature of nurses' work/care at the ICU, their nursing care coordination and management responsibilities should be based on decision making skills, with a view to the appropriate use of the workforce, material resources and procedures and practices.

To achieve decision making competences, some phases need to be complied with: Knowing the institution and its mission, assessing users' actual needs and performing work based on planning that covers detailed information, such as: ideas and ways to put them in practice; feasible resources; definition of people involved and steps to be followed; creation of timetables and involvement of different hierarchical levels⁽¹⁵⁾.

Decision-making skills comprise critical thinking about situations based on analysis and judgment of the perspectives regarding each action proposal and its developments. Logical and intuitive reasoning and

assessment permeate this process. Administration knowledge to be gained in this area includes: knowledge of organizations' culture and power structures, the management process of decision making, including goal setting, search for alternatives, choice, implementation and assessment⁽¹⁶⁾.

Three selected studies underline nurses' decision-making competency. In one of them, it is defined as a process that is part of nurses' daily reality and is influenced by different factors, such as institutional culture and models of behavior. It is observed that nurses make decisions based on and determined by compliance with institutional rules and the maintenance of unit's organization and functioning, valuing scientific knowledge and professional experience⁽¹⁷⁾.

The other studies on this theme highlight decision making as an integrative strategy, aiming for involvement and cooperation, and that nurses should apply creativity with a view to decision making, so as to adapt material and human resources to put in practice planned and high-quality care^(2,18). In this perspective, decision making in organizations will increasingly demand teamwork and people's greater participation⁽¹⁸⁾.

Nursing leadership

Leadership is considered one of the main competences health professionals need to develop nowadays and was highlighted in one of the studies found.

The complexity and work burden imposed on ICU nurses, managing and guiding care actions and practices, reinforces the need to develop the leadership competence. As these professionals spend most of their time awake working, they have the opportunity to develop and practice leadership in this environment, where the situations experienced are real and masterful, demanding nurses' insightfulness, readiness and skill⁽¹⁹⁾.

Leadership involves efficient and effective commitment, responsibility, empathy, decision-making skill, communication and management⁽⁷⁾.

As one of the studies highlights, the interactiveness of the ICU environment, in which decisions need to be fast and assertive, often produce an authoritarian instead of participatory posture⁽²⁰⁾. Each nursing team member presents a peculiar characteristic. In this context, nurses should adapt their leadership style in response to differences and guarantee care that complies with established objectives⁽²⁰⁾.

Situational Leadership was the focus in one of the studies and is based on the premise that there

is no single appropriate leadership style for any and all situations. Situational leadership considers four leadership styles, which are: determine, persuade, share and delegate. The study results evidenced a trend towards more participatory leadership, including the possibility to persuade and share care decisions with the professionals led, that is, nurses explain their decisions and share ideas and the decision process. The determine model still exists though, in which nurses give specific instructions and closely supervises the performance of the professionals led⁽²⁰⁾.

ICU nurses should acknowledge the value of each team member with a view to establishing responsible leadership, in which confidence and the continuous search for knowledge prevail. These professionals' constant knowledge improvement gains relevance though, with a view to responding to the team and the institution's needs.

Communication

At an ICU, one of the tools needed for health teamwork is communication.

Competent communication can be conceptualized as an interpersonal process meant to reach the communicators' objective, to depart from basic communication knowledge, to comprise awareness of the verbal and non-verbal in interactions, to act clearly and objectively and to enhance self-knowledge in the search for a more authentic life⁽⁷⁾. Considering nurses' management work process in the ICU context, competent communication is fundamental with a view to adequate and productive interactions.

In management, competent communication is essential in view of the fact that, to organize, communicating is indispensable, so as to set targets, identify and solve problems; learning to communicate effectively is crucial to further the efficiency of each work unit and the organization as a whole⁽²¹⁾.

ICU nurses need to create communication strategies in response to family members and patients' needs. Researchers highlight the importance of combining sensitivity with theoretical knowledge, with a view to offering planned and structured nursing care, so as to advise family members about what happens at the ICU and stimulate the expression of their feelings⁽²²⁾. In these study results, in the discourse of ICU hospitalized patients' relatives about communication with the health team, the need was highlighted for professionals to communicate more clearly and provide further information, identifying the nursing team as a possible reference to grant this support⁽²²⁾.

Communication can be considered a tool to change and improve care. In this sense, assessing, planning and communicating are processes present in daily ICU work, necessary for any action or decision.

Continuing/permanent education

At ICU, professionals are expected to be competent to identify and intervene in patients' physiological alterations, to mitigate patients and relatives' anxiety, use the technological resources in this environment and facilitate interdisciplinarity⁽²⁰⁾. Nurses are responsible for seeing to the maintenance and organization of the environment, together with other nursing team members⁽²⁰⁾. Taking care of their peers' competency development is an activity that demands these professionals' effort and dedication though. It is believed that continuing/permanent education activities can represent one of the ways to guarantee the maintenance of the nursing team's care competency.

In a selected study, it was verified which and when in-house continuing education programs are developed for the nursing team, as well as who develops them⁽²³⁾. In addition, it was also investigated what nurses have done as formal external continuing education activities. The results showed that, out of all ICU under analysis, 34 (79.1%) answered they provided specific initial training for the nursing team, which most frequently took up to one month (44.2%). Eighteen (41.9%) of the ICU offer recycling programs, which mainly focus on reviews of techniques and routines and updates on pathologies. Both initial training and recycling programs are predominantly developed by the ICU nurse⁽²³⁾. Thus, one may say that continuing education was used for professional competency development, covering improvement and recycling activities.

It is important to highlight that, in the context of nurses' practice and professional development, professional education is also observed as a form of permanent education (PE).

PE was also highlighted as a participatory management strategy in ICU work/care, as it permits transforming the work process, involves managing, delivering care, educating and uses critical reflection on daily work practice to produce changes in the health team's thinking and acting⁽¹⁸⁾.

The practice of the permanent education competence is mentioned in the National Curricular Guidelines (NCGs) as a responsibility of health professionals, associated with the role of universities and institutional policies. Nurses' involvement in the permanent education

process occurs through the continuous gaining of skills and competences in accordance with the epidemiological context and the needs of health scenarios, with a view to attitudes that produce qualitative changes in their work process⁽¹⁶⁾.

Human resource management

In the nursing work process, nurses need to be apt to take initiative and manage both the nursing workforce and physical and material resources.

Concerning nursing human resource management at ICU, nursing staff dimensioning stands out in one study. It is considered a way to comply with patients' care demands, contributing to maintain favorable work conditions and, consequently, the health of nursing workers who deal with stressful situations – suffering and death – on a daily base⁽²⁴⁾.

From a quantitative and qualitative focus, nurses should estimate the dimensions of the nursing staff that is capable of seeing to patients' care needs⁽²⁵⁾ based on the minimal technical standards established in COFEN Resolution No. 293/2004. This Resolution recommends that the dimensioning and quanti-qualitative adequacy of the nursing staff should be based on the characteristics of the institution/company, the nursing service and the clients⁽²⁶⁾. Considering the above, it should be taken into account that, generally, ICU patients are weakened and more care-dependent than at other hospital units. Therefore, nursing staff dimensioning should be estimated through instruments that consider the different activities developed at this sector and help to truly quantify the nursing workload and determine the number of team professionals⁽²⁴⁾. As for the proportion of nurses in relation to the total nursing staff, it is given that, in intensive care, between 52 and 56% of all nursing workers should be nurses, and the remainder nursing technicians (NT)⁽²⁶⁾.

For Nursing human resource management, ICU nurses need to know their collaborators' capacity and readiness and link them with the complexity level the clients require. This will allow team professionals to grow and improve their knowledge, skills and attitudes in nursing care delivery.

Material resource management

Material resource management is defined as the flow of programming (material classification, standardization, specification and preview), purchasing

(quality control and public tender processes), reception, storage, distribution and control activities, with a view to guaranteeing that user care is not interrupted due to insufficient material resources⁽²⁷⁾.

One of the branches of the management process nurses perform is the management of health units and services, including human and material resource administration, foreseeing and providing for the resources needed to see to patients' needs⁽²⁸⁾.

Particularly at more technological services like ICU, nurses play a relevant role in material resource management, as more complex patients are attended, so that high technology and care need to be harmonized at the service.

This fact is in line with one of the studies, in which it was verified that, in daily ICU work, nurses have taken charge of material resource management to administer the entire flow of items used for nursing care. Nurses are the adequate nursing professionals to administer this service, opining and deciding on the most appropriate resources for qualified and safe care delivery to patients and the entire health team⁽²⁹⁾.

Nurses perform quality and waste control activities, material assessment, control of high-cost materials and orientation on adequate material use⁽²⁸⁾.

In view of the above, these professionals need notions of material use control to serve as a link between the nursing and health team, intermediating the contact needed for material forecasts and purchasing, enabling them to define the most adequate material for high-quality care delivery to the clients they are responsible for.

Final considerations

The identified professional competences of nurses support the establishment of guidelines to construct nurses' profile at intensive care units and to drive/mobilize these professionals' care practices.

The participation of health and nursing service management is relevant to elaborate strategies aimed at competency development and assessment in nursing professionals.

Despite the limitations any research of this kind involves, reflections need to be provoked in ICU nurses, as well as in ICU managers and future professionals, regarding the implementation of competences to work in this sector. It stands out that plenty of research is needed in view of the countless guidelines involved in this theme.

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