

Tailoring curricula to fit health professionals needs in a disaster: a proposal for Brazilian nurses



Adaptando currículo para atender a necessidades de profissionais de saúde em um desastre: uma proposta para enfermeiras brasileiras

Adaptando el currículo para atender a necesidades de profesionales de salud en un desastre: una propuesta para enfermeras brasileñas

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ABSTRACT

Introduction: Education and training are the cornerstones of disaster preparedness and best curricula and training programs are competency-based.

Objective: This paper presents a proposal to be applied in nursing curricula in Brazil, based on the National Curriculum Guidelines and the recommendations for integrating skills and competencies into undergraduate curricula proposed by the World Health Organization.

Results: Comparison of competencies sets was conducted to indicate the specific competencies to be included as essential for Brazilian nurses. Levels of proficiency were indicated for the establishment of learning objectives and learning experiences and evaluation tools recommended from the literature.

Conclusions: The competencies provided are the beginning of the discussion that will have to take place in every nursing school, if all Brazilian nurses are to graduate ready to participate should a disaster occur.

Keywords: Competency-based education. Education in disasters. Nursing education, curriculum.

RESUMO

Introdução: Educação e capacitação são os pilares da preparação para os desastres e melhores currículos e programas de treinamento são baseados em competências.

Objetivo: Este artigo apresenta uma proposta para ser aplicada ao currículo de enfermagem no Brasil, baseada nas Diretrizes Curriculares Nacionais e nas recomendações para a integração de habilidades e competências no currículo de graduação propostas pela Organização Mundial da Saúde.

Resultados: Foi realizada uma comparação de referenciais de competências para indicar as competências específicas essenciais para enfermeiras brasileiras. Níveis de proficiência foram indicados para o estabelecimento de objetivos educacionais e experiências de aprendizado e instrumentos de avaliação recomendados da literatura.

Conclusões: As competências constituem o início da discussão que deverá ocorrer em cada escola de enfermagem para que todas as enfermeiras brasileiras estejam preparadas para o caso de um desastre ocorrer.

Palavras-chave: educação baseada em competências, educação em desastres, educação em enfermagem, currículo.

RESÚMEN

Introducción: Educación y capacidad son los pilares de la preparación para los desastres y mejores currículos y programas de entrenamiento son basados en competencias.

Objetivo: Este artículo presenta una propuesta para ser aplicada al currículo de enfermería en Brasil, basada en las Directrices Curriculares Nacionales y en las recomendaciones para la integración de habilidades y competencias en el currículo de grado propuestas por la Organización Mundial de la Salud.

Resultados: Se realizó una comparación de referenciales de competencias para indicar aquellas específicas esenciales para enfermeras brasileñas. Niveles de competencia fueron indicados para el establecimiento de objetivos educacionales y experiencias de aprendizaje e instrumentos de evaluación recomendados por la literatura.

Conclusiones: Las competencias constituyen el inicio de la discusión que deberá ocurrir en cada escuela de enfermería para que todas las enfermeras brasileñas estén preparadas para el caso de un desastre ocurrir.

Palabras clave: educación basada en competencias, educación en desastres, educación en enfermería, currículo.

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■ INTRODUCTION

Nurses and midwives are frontline workers under stable conditions, but more so during situations of emergencies and crises, working both in pre-hospital as well as in hospital settings. In order to contribute to saving lives and promoting health under such difficult conditions, they need to have the right competencies⁽¹⁾.

In Brazil, besides the growth in the number and intensity of disasters⁽²⁾, no formal acceptance exists at the national level of the need to integrate disaster content into standard nursing curriculum or to develop a standardized continuing education course. A study about Essential Public Health Functions (EPHF) in a Nursing Curricula found no reference to EPHF 11 "Reducing the impact of emergencies and disasters on health"⁽³⁾.

Education and training are the cornerstones of disaster preparedness and any curriculum or training program should be competency-based. Each competency statement represents 'a complex combination of knowledge, skills and abilities demonstrated by organization members that are critical to the effective and efficient function of the organization'⁽⁴⁾. They are generally understood to require some observable action, though not all sets meet that definition. To date, hundreds of competencies have been identified in attempts to create a healthcare workforce prepared to respond appropriately and effectively to a disaster⁽⁵⁾. The World Health Organization reviewed the role and contribution of nursing and midwifery in emergency preparedness and response and developed recommendations for integrating skills and competencies into undergraduate curricula and developed the competencies, content areas and topics of an undergraduate nursing curriculum in emergency preparedness and response⁽¹⁾.

This paper presents a proposal to be applied in nursing curricula in Brazil, based on the National Curriculum Guidelines and the recommendations proposed by the World Health Organization.

Overlapping emergency preparedness and response with brazilian nursing curricula competencies

The first step to a competency-based curriculum is to select a competency. Competencies sets frequently intersect or overlap. Comparison of sets can be developed to facilitate selection of the specific competencies to be included in a training or developmental program⁽⁴⁾.

The framework developed by the World Health Organization establishes 8 core competencies and 37 sub-competencies.

Of these, 7 core and 14 sub-competencies could be related to the core and specific competencies defined in the Brazilian Curriculum Framework⁽⁶⁾ (Chart 1).

During the process of writing the objectives, the content can be organized in proficiency categories. Each category can be defined by the level of performance or proficiency expected after mastery of the objectives: awareness, performance, and planning⁽⁷⁾. The awareness level of proficiency is testable only in a classroom or written test situation, as it describes the intellectual an overview of the issues and challenges related to preparing nurses for and responding to disasters. The key goal of this level is to introduce terms, issues, and basic domain knowledge so that this information is understood and remembered. The performance component (which is a competency, that is, the ability to 'do' something) provides performance-based or application-oriented training designed to ensure that nurses gain the skills and knowledge required to perform effectively during a disaster. The planning component provides additional competencies to be developed by planning and management personnel who need to participate in devising cooperative plans for responding to disasters.

Moving from competencies to curricula

Moving from a selected set of competencies to an actual curriculum is a step-by-step process presented as follows⁽⁴⁾.

- Step 1:** Select a competency
- Step 2:** Define key words or phrases within the competency statement
- Step 3:** Describe the target audience for the education program
- Step 4:** Sequentially separate all required sub-competencies
- Step 5:** Develop objectives (the desired learner behavior or state) for each sub-competency
- Step 6:** Relate an evaluation procedure to learning objectives
- Step 7:** Provide an example of relevant literature (content) from theory and practice for each sub-competency
- Step 8:** Plan specific classroom or other learning experiences that encompass all identified learning objectives
- Step 9:** Evaluate learning after completing training

While the process describes the target audience as the third step, it is much more common to begin with knowledge of the specific group for which the curriculum is being prepared. All health professionals and students require awareness and understanding of particular aspects of disaster planning, mitigation, response, or recovery. These people

Chart 1 – Disaster competencies in overlapping competency sets.

Competencies WHO according to core competencies Brazil	Specific competencies Brazil	Specific competencies WHO
<p>Health Care</p> <p>Competency 2: Care Principles: Apply principles of care provision and management in an emergency situation</p>	<ul style="list-style-type: none"> • Act in different professional practice settings, considering clinical and epidemiological models; • Integrate the science/art of care as an instrument of professional interpretation; • Assume an ethical, humanistic and social commitment with multiprofessional health practice 	<ul style="list-style-type: none"> • Describe at the pre-emergency, emergency and post-emergency phases the essential nursing care • Identify relevant principles of nursing practice in emergency situations • Assume a contributively role in the delivery of health care before, during and after an emergency situation whenever necessary.
<p>Competency 4: Nursing Care Implement nursing care in an emergency situation for individuals, families, groups with vulnerabilities and communities</p>	<ul style="list-style-type: none"> • Is capable of assessing and solving health problems, communicating with others, taking decisions, intervening in the work process, team working and dealing with situations in constant change; 	<ul style="list-style-type: none"> • Perform nursing activities according to scientific principles in an unexpected or rapidly changing situation.
<p>Competency 7: Public Health Participate actively in health maintenance and promotion</p>	<ul style="list-style-type: none"> • Recognize health as the right for dignifying life conditions, guaranteeing a comprehensive care, with preventive and curative actions directed towards individuals and collectives, demanded in all levels of the health system; • Plan and implement health education and promotion programs, considering the specificity of different social groups and different life processes, health, work and illness; 	<ul style="list-style-type: none"> • Recognize community health issues related to the impact of emergencies on water, food supplies, shelter and protection of displaced persons (as a consequence of disasters) • Utilize resources available for health promotion and health education in an emergency situation
<p>Decision making</p> <p>Competency 1: Ethical and Legal Issues, and Decision-Making: Demonstrate an understanding of the challenges to ethical and legal decision-making, critical thinking and care prioritization in conflict and emergency situation.</p>	<ul style="list-style-type: none"> • Respect the ethic, legal and humanistic principles of the profession; • Manage the nurse work process attending principles of Ethics and Bioethics, with resolutivity to the individual and to the public in all instances of care; • Provide nursing care according to the individual, family and different community groups necessities; 	<p>Apply an ethical and nationally approved framework to support decision-making and prioritization needed in an emergency situation</p> <ul style="list-style-type: none"> • Apply critical thinking and problem-solving skills in planning the essential nursing care for individuals, families, special groups at the pre-emergency, emergency and post-emergency phases

Competencies WHO according to core competencies Brazil	Specific competencies Brazil	Specific competencies WHO
<p>Communication: Competency 6: Communication and Interpersonal Relationships Apply principles of communication and interpersonal relationships in an emergency situation</p>	<ul style="list-style-type: none"> • Integrate nursing actions with the multiprofessional ones; 	<ul style="list-style-type: none"> • Consult with other health care professionals and relevant organizations/agencies when individual or group needs fall outside the scope of nursing practice
<p>Leadership: Competency 5: Safety and Security: Apply nursing techniques appropriate to the maintenance of a safe environment</p>	<ul style="list-style-type: none"> • Uses instruments to achieve the quality of nursing and health care provision; 	<ul style="list-style-type: none"> • Ensure the safe administration of treatment and their therapeutics. • Assess the safety and security issues for self, the response team and the victims in an emergency situation.
<p>Management: Competency 3: Needs Assessment and planning Carry out a relevant and systematic safety and needs assessment during and after an emergency for self, the response team and the victims</p>	<ul style="list-style-type: none"> • Understands the health policy in the context of social policies, recognizing epidemiological profiles of the populations; • Is capable of assessing and solving health problems, communicating with others, taking decisions, intervening in the work process, team working and dealing with situations in constant change; 	<ul style="list-style-type: none"> • Identify main elements in country profile useful for emergency preparedness and managing the response. • Contribute to damage assessment and needs analysis process in the immediate aftermath of the impact and in later stages.

Source: Research data, 2015.

should be able to describe core concepts or skills but may have limited ability or need to apply this knowledge⁽⁸⁾.

An educational framework and competency set from which educators could devise learning objectives and curricula tailored to fit the needs of health professionals in a disaster should consider proficiency based on their educational needs, experience, professional role, and job function in disaster planning, mitigation, response, and recovery. Thus, even a general understanding that the curriculum is being prepared for 'undergraduate nursing students' will require attention or modification depending on what level of student (pre-clinical, advanced clinical) is being targeted.

Assessing the time availability of the learner

Among the barriers that would either prevent or make difficult the integration of disaster content into nursing school curricula is the general agreement that existing

nursing school curriculum are time limited⁽⁸⁾. Thus, a major challenge is to integrate, rather than add, additional content into an already full nursing curriculum⁽⁹⁾. Brazilian Nursing Curricula Guidelines establishes content in five major areas: Biologic and Social basis of Nursing, Fundamentals of Nursing, Nursing Care, Nursing Management and Nursing Education⁽⁶⁾. Each of these areas specifies contents into which content areas and topics described by the World Health Organization could be integrated.

Planning specific classroom or other learning experiences that encompass all identified learning objectives and match teaching methods to the audience

Strategies to achieve curriculum objectives include⁽¹⁰⁾: integrate cognitive information that is already part of the curriculum, Increase curriculum emphasis on public

health, epidemiology, and health promotion, use exercises to facilitate application of knowledge of circumstances characteristic of manmade and natural catastrophic events and public health emergencies, use case studies, drills, and dramatizations using multimedia (such as videotaped scenarios) to simulate potential catastrophic events and to effectively study the circumstances surrounding past events, organize catastrophe drills in a manner that provides evaluation and direct feedback, introduce new units to provide advanced training for volunteers who want to be equipped for service at the frontline after an event.

Evaluating learning after completing training

Brazilian National Guidelines determine that students' evaluation should be based on established competencies, abilities and curricula contents. Evaluation tools recommended by the literature include objective written test, objective self-reports of feelings, objective self-reports of past actions, essay written text, oral questioning, planned observation by checklist or rating, paper, theme or report, performance observed, situational test and others⁽⁴⁾.

Example of moving from a competency to specific learning objectives

The competency 5 'Safety and Security: Apply nursing techniques appropriate to the maintenance of a safe

environment' was selected as an example from the WHO referential.

The key words/phrases within this competency include: 'nursing provision', 'safety', safe environment' The target audience for this learning will be students at an intermediate level in clinical experiences in an undergraduate curriculum, and the identified learning objectives (Chart 2) will be spread across courses in care of adult patients, care of children and community health nursing.

Having identified the learning objectives, the selection of evaluation method(s) is next. Using the sub-objectives listed above, the following chart presents the evaluation options.

At this point, the specific sub-competencies and learning objectives should be divided among the courses in which they will be taught, with key reference/content materials made available to course faculty, and an estimate of teaching time for each item suggested. For example, the discussion of how care setting vary when directly involved in an event contrasted with receiving patients from elsewhere might involve up to 30 minutes of discussion, with examples from recent world or local events (e.g., contrast World Cup influx of potential patients with Haitian earthquake). This could be incorporated into any of the listed courses. The first items, the relative priority of interventions, could be included in presentations on planning patient care, with at least one opportunity to plan care quickly for a patient from an emergency situation. Some of the items

Chart 2 – Learning objectives for each sub-competency and competency

Competency	Sub-Competency	Learning Objective
Ensure the safe administration of treatment and therapeutics [in an emergency environment].	Identify key treatments to be administered	<ul style="list-style-type: none"> • Describe relative priority of interventions/treatments in emergency situations: <ul style="list-style-type: none"> - maintain airway - control bleeding - control pain
	Identify risks to patient safety in the environment	<ul style="list-style-type: none"> • Describes difference in risk if care setting is directly involved in emergency (e.g., earthquake) or receiving patients from elsewhere • Assists in relocation of patients if immediate setting is/becomes unsafe • Monitors safety and reports findings to safety personnel
	Match care to the impact assigned triage level in a mass casualty event	<ul style="list-style-type: none"> • Describes difference between usual care and triage-based care in mass casualty events • Discusses emotional impact of triage priorities on self, patients, families

Source: Association for Prevention Teaching and Research; Columbia University, School of Nursing, Center for Health Policy, Competency-to-curriculum toolkit, March 2008.

Chart 3 – Evaluation options according to learning objectives

LEARNING OBJECTIVES	EVALUATION OPTIONS							
	Objective Written Test	Essay Written Test	Oral Questioning	Planned Observation by Checklist or Rating	Paper, Theme, or Report	Performance, Observed	Incidental Observation by Instructor or Evaluator	Situational Test
• Describe relative priority of interventions/treatments in emergency situations	X	X	X					
• Describes difference in risk if care setting is directly involved in emergency (e.g., earthquake) or receiving patients from elsewhere	X	X	X		X			
• Assists in relocation of patients if immediate setting is/ becomes unsafe			X	X		X		X
• Monitors safety and reports findings to safety personnel			X			X		X
• Describes difference between usual care and triage-based care in mass casualty events	X	X						
• Discusses emotional impact of triage priorities on self, patients, families		X	X		X			
• Describes use of family or volunteers to augment care during mass casualty event	X	X	X		X			

Source: Association for Prevention Teaching and Research; Columbia University, School of Nursing, Center for Health Policy, Competency-to-curriculum toolkit, March 2008.

lend themselves to demonstration in a simulation laboratory or simulated emergency, and can be assessed in that way. If the key verb is ‘discuss’ then written or oral examination is sufficient.

CONCLUSIONS

A great deal of education remains that of the ‘mind dump’— that is, the teacher assumes he/she is to move whatever is in the mind of the teacher into the mind of the student. A competency-based educational approach demands regularly considering the question ‘how will I know if my teaching has been successful?’, with a careful description of the behaviour looked for in the specific learning audience. Thus, the level of engagement presented in the example above requires a great deal of discussion,

but relatively little clinical demonstration. Were the same competencies to be taught to nursing students just prior to graduation, or to post-graduate students, the learning objectives would be developed to require clinical demonstration of the various skills that show application of the knowledge focused on in the example.

Inclusion of disaster nursing in the curriculum is more than identifying an interested faculty member who will give a lecture or two whenever it can be squeezed into the available time. It requires the thoughtful consideration by faculty of the desired level of demonstrable skill, and the decision about the amount of time to be devoted to acquisition of those skills. The table of competencies provided here is the beginning of the discussion that will have to take place in every nursing school, if all Brazilian nurses are to graduate ready to participate should a disaster occur.

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