

Global health competencies according to nursing faculty from Brazilian higher education institutions

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Objectives: to identify the agreement of faculty affiliated with Brazilian higher education institutions about the global health competencies needed for undergraduate nursing students' education and whether these competencies were covered in the curriculum offered at the institution where they were teaching. **Method:** exploratory-descriptive study, involving 222 faculty members who answered the Brazilian version of the "Questionnaire on Core Competencies in Global Health", made available electronically on the website Survey Monkey. **Results:** participants predominantly held a Ph.D. (75.8%), were women (91.9%) and were between 40 and 59 years of age (69.3%). The mean and standard deviation of all competencies questioned ranged between 3.04 (0.61) and 3.88 (0.32), with scores for each competency ranging from 1 "strongly disagree" to 4 "strongly agree". The results demonstrated the respondents' satisfactory level of agreement with the global health competencies. **Conclusions:** the study demonstrated a high mean agreement level of the nursing faculty from Brazilian HEI with the global health competencies in the questionnaire. The curricula of the HEI where they teach partially address some of these. The competencies in the domain "Globalization of health and health care" are the least addressed.

Descriptors: World Health; Nursing; Competency-Based Education; Education, Nursing.

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Introduction

The increased international mobility and dissemination of illnesses among countries, the technological advances and the greater interdependence among nations contribute to the acknowledgement of the need to prepare students from all health professions to understand the local, national and international contexts, focusing on the development of cultural and cross-cultural skills in response to global health needs⁽¹⁻⁷⁾.

In this perspective, research results demonstrate North American universities' growing interest in the global health area, identifying the following main causes: students' increased awareness about the importance of global issues for health, greater visibility of international health, search for equity as one of the components of the North American external policy and the expansion of resources in the area with the consequent increase in opportunities for faculty members and work places for the students⁽⁸⁾.

As a result of the intensification of globalization and the exchange movements of goods, services, people and diseases among countries, the interest in global health themes has grown in different health professions and, consequently, these contents are included in different undergraduate programs in health and other related areas.

In Brazil, Higher Education Institutions (HEI) organize their curricular structures according to the Curricular Guidelines for undergraduate nursing education. These guidelines establish a profile of graduated professionals who are capable of knowing and intervening in the most prevalence health-disease problems/situations in the national epidemiological profile⁽⁹⁾. Although they do not explicitly recommend the inclusion of global health contents, the guidelines indicate that the education should provide the professionals with competencies and general communication skills and continuing education that include the mastery of at least one foreign language and of communication and information technologies, as well as the ability to continuously learn and develop academic/professional mobility through national and international networks. These guidelines support the development of research that is particularly focused on global health competencies as part of the nursing education process in Brazil.

Global Health can be defined as "a study, research and practice area that prioritizes the improvement of

health and achievement of equity in health for all around the world"⁽¹⁰⁾. Global Health highlights cross-sectional health themes and involves areas related to the health sciences, promoting interdisciplinary cooperation, especially in the primary health care context⁽¹⁰⁾.

Thus, in 2008, a Consortium of Universities for Global Health (CUGH) was launched to promote the involvement of American universities in confronting key aspects of global health. The CUGH held a meeting in Washington, D.C. in September 2009 with representatives from the Global Health Education Consortium (GHEC). The GHEC is leading an initiative aimed at developing global health competencies among medical students. On the occasion, the need was discussed for other health professionals to develop similar competencies⁽¹¹⁾.

In that sense, researchers from the University of Alabama at Birmingham (UAB), the Autonomous University of Mexico (UNAM), Johns Hopkins University (JHU) and the University of São Paulo (USP) at Ribeirão Preto got permission from GHEC to adapt the instrument developed for medical students to nursing, with a view to identifying the agreement among nurses about the global health competencies needed for their activity at an expanded level. The questionnaire was initially validated and used in a research focused on Spanish-speaking nursing faculty from Latin America and North America, and later validated and applied in Brazil⁽¹²⁾.

Hence, this study was developed to identify: the agreement among nursing faculty affiliated with Brazilian Higher Education Institutions (HEI) about the global health competencies the students need to develop in their undergraduate nursing program and whether the current curriculum at the institution where they teach addresses these competencies.

Method

Quantitative methodological study with a cross-sectional design, involving 222 nursing faculty from Brazilian nursing HEI. The Brazilian version of the "Questionnaire on Core Competencies in Global Health" was used. This questionnaire consists of two parts: the first is related to the subjects' characteristics, and the second to the core competencies in global health of undergraduate nursing students. The participants identified the degree they considered appropriate for each type of competency, with scores ranging from 1 "I strongly disagree" to 4 "I strongly agree". The questionnaire includes 30 competencies, divided in six

domains: Global burden of disease; Health implications of migration, travel and displacement; Social and environmental determinants of health; Globalization of health and healthcare; Healthcare in low-resource settings; Health as a human right and development resource. For each item, space was available to mark whether the competency was addressed in the curriculum offered at the institution where the faculty member was teaching.

After receiving authorization from the Research Ethics Committee at the University of São Paulo at Ribeirão Preto College of Nursing (Opinion 1135/2010), the questionnaire was made available through the website Survey Monkey. Next, an e-mail was sent to deans, course coordinators and nursing departments of 80 HEI in Brazil, inviting them to participate in the research and asking them to disseminate it to the faculty. To choose the HEI, the list of institutions from the database of the Secretariat of the Global Network of WHO Collaborating Centers for Nursing and Midwifery Development was used, located at the WHO Collaborating Center for Nursing Research Development at the University of São Paulo at Ribeirão Preto College of Nursing. Twenty HEI were randomly selected from each region of Brazil, including 10 public and 10 private institutions in each region. Ethical guidelines were followed, in compliance with National Health Council Resolution 196/96, and the entire process was online and voluntary, in accordance with each subject's interest, availability and time. The data were processed in the software SPSS and submitted to descriptive statistical analysis.

Results

The answers to 222 questionnaires were considered. Table 1 displays the research participants' profile.

In Table 2, the types of nursing courses offered at the school of nursing where the faculty members work are listed.

The mean, standard deviation (SD) and *Cronbach's* alpha (α) for the Brazilian nursing faculty members' agreement with the global health competencies undergraduate nursing students need to develop are demonstrated in Table 3.

The 30 competencies addressed in the questionnaire were considered, divided in 06 domains. The means and standard deviations were calculated for each of the 30 competencies and *Cronbach's* alpha was obtained for each of the 06 domains.

Table 1 - Profile of nursing faculty who participated in the research. Brazil, 2012

| Variables | n | % |
|------------------------------------|-----|------|
| Gender | | |
| Female | 205 | 91.9 |
| Male | 17 | 7.6 |
| Age range (full years) | | |
| 23-29 | 8 | 3.4 |
| 30-39 | 37 | 16.4 |
| 40-49 | 74 | 33.0 |
| 50-59 | 81 | 36.3 |
| 60-69 | 18 | 7.9 |
| 70-79 | 4 | 1.6 |
| Academic background and activities | | |
| Undergraduate | 24 | 10.8 |
| Graduate Lato Sensu | 17 | 7.6 |
| Master's | 61 | 27.4 |
| Ph.D. | 169 | 75.8 |
| Role in Nursing Education | | |
| Dean of Nursing School | 9 | 4.0 |
| Nursing Course Coordinator | 38 | 17.0 |
| Nursing Faculty | 181 | 81.2 |
| Other | 30 | 13.5 |
| Years of experience | | |
| 1-9 | 57 | 25.3 |
| 10-19 | 68 | 30.3 |
| 20-29 | 65 | 29.0 |
| 30-39 | 26 | 11.4 |
| 40-53 | 06 | 2.4 |

Table 2 - Types of nursing courses offered at the school of nursing where the faculty member teaches. Brazil, 2012

| Variables | n | % |
|------------------------|-----|------|
| Nursing technician | 19 | 8.5 |
| Nursing baccalaureate | 215 | 96.4 |
| Nursing specialization | 138 | 61.9 |
| Nursing master's | 145 | 65.0 |
| Nursing Ph.D. | 91 | 40.8 |
| Other | 36 | 16.1 |

The table below displays the faculty members' answers to the question about whether the competencies are addressed or not in the curriculum offered at the institution they are affiliated with.

The results demonstrated that most of the competencies were not included in the curriculum offered at the nursing schools the research respondents represented. The percentage of respondents who indicated using some competency ranged between 6.7% ("demonstrate an understanding the health risks posed

by international travel or foreign birth”) and 75.3% as poverty, education and life styles affect health and (“describe how social and economic conditions such access to health care”).

Table 3 - Mean, standard deviation (SD) and *Cronbach's* alpha (α) for the faculty members' agreement with the Global Health Competencies students need to develop in their undergraduate nursing program. Brazil, 2012

| Domains/Competencies | Mean | SD |
|---|--------|------|
| Global burden of disease ($\alpha=0.75$) | | |
| Describe the major causes of morbidity and mortality around the world, and how the risk of disease varies with regions | 3.57 | 0.56 |
| Describe major public health efforts to reduce disparities in global health (such as Millennium Development Goals and Global Fund to Fight AIDS, TB, and Malaria) | 3.60 | 0.53 |
| Discuss priority setting, healthcare rationing and funding for health and health-related research | 3.48 | 0.58 |
| Health implications of migration, travel and displacement ($\alpha=0.79$) | | |
| Demonstrate an understanding the health risks posed by international travel or foreign birth | 3.04 | 0.61 |
| Recognize when travel or foreign birth places a patient a risk for unusual diseases or unusual presentation of common diseases and make an appropriate assessment or referral | 3.06 | 0.62 |
| Describe how cultural context influences perceptions of health and disease | 3.78 | 0.48 |
| Elicit individual health concerns in a culturally sensitive manner | 3.67 | 0.53 |
| Communicate effectively with patients and families using a translator | 3.14 | 0.63 |
| Identify world regions and/or travel activities associated with increased risk for life-threatening diseases including HIV/AIDS, malaria and multi-drug resistant tuberculosis | 3.39 | 0.63 |
| Social and environmental determinants of health ($\alpha=0.83$) | | |
| Describe how social and economic conditions such as poverty, education and life styles affect health and access to health care | 3.88 | 0.32 |
| List major social determinants of health and their impact on differences in life expectancy between and within countries | 3.63 | 0.58 |
| Describe the impact of low income, education and communication factors on access to and quality of health care | 3.76 | 0.44 |
| Describe the relationship between access to clean water, sanitation, food and air quality on individual and population health | 3.82 | 0.38 |
| Describe the relationship between environmental degradation and human health | 3.81 | 0.40 |
| Globalization of health and health care ($\alpha=0.87$) | | |
| Analyze how global trends in healthcare practice, commerce and culture, multinational agreements and multinational organizations contribute to the quality and availability of health and healthcare locally and internationally | 3.25 | 0.62 |
| Describe different national models or health systems for provision of healthcare and their respective effects on health and healthcare expenditure | 3.50 | 0.55 |
| Analyze how travel and trade contribute to the spread of communicable and chronic diseases | 3.39 | 0.56 |
| Analyze general trends and influences in the global availability and movement of healthcare workers | 3.26 | 0.58 |
| Describe national and global healthcare worker availability and shortages | 3.37 | 0.59 |
| Describe the most common patterns of healthcare worker migration and its impact on healthcare availability in the country that the healthcare worker leaves and the country to which he/she migrates | 3.09 | 0.64 |
| Healthcare in low-resource settings ($\alpha=0.81$) | | |
| Articulate barriers to health and healthcare in low-resource settings locally and internationally | 3.49 | 0.58 |
| Demonstrate an understanding of cultural and ethical issues in working with disadvantaged populations | 3.71 | 0.47 |
| Demonstrate the ability to adapt clinical skills and practice in a resource-constrained setting | 3.69 | 0.47 |
| Identify signs and symptoms for common major diseases that facilitate nursing assessment in the absence of advanced testing often unavailable in low-resource settings (cardiovascular disease, cancer, and diabetes) | 3.69 | 0.51 |
| Describe the role of syndromic management and clinical algorithms for treatment of common illnesses | 3.33 | 0.68 |
| Identify clinical interventions and integrated strategies that have been demonstrated to substantially improve individual and/or population health in low-resource settings (e.g. immunizations, essential drugs, maternal child health programs) | 3.75 | 0.45 |
| For students who participate in electives in low-resource settings outside their home situations, a demonstration that they have participated in training to prepare for this elective | 3.49 | 0.47 |
| Health as a human right and development resource ($\alpha=0.68$) | | |
| Demonstrate a basic understanding of the relationship between health and human rights | 3.78 | 0.42 |
| Demonstrate familiarity with organizations and agreements that address human rights in healthcare and medical research | 3.52 | 0.57 |
| Describe the role of WHO in linking health and human rights, the Universal Declaration of Human Rights, International Ethical Guidelines for Biomedical Research Involving Human Subjects (2002), Declaration of Helsinki (2008) | 3.68 | 0.50 |
| Total for 30 competencies ($\alpha=0.92$) | 105,68 | 9.47 |

Table 4 - Answers from faculty members about the inclusion of the competencies in the curriculum at the institution they are affiliated with. Brazil, 2012

| Domains/Competencies | Yes | | No | |
|---|-----|------|-----|------|
| | n | % | n | % |
| Global burden of disease | | | | |
| Describe the major causes of morbidity and mortality around the world, and how the risk of disease varies with regions | 135 | 60.5 | 87 | 39.0 |
| Describe major public health efforts to reduce disparities in global health (such as Millennium Development Goals and Global Fund to Fight AIDS, TB, and Malaria) | 117 | 52.5 | 105 | 47.5 |
| Discuss priority setting, healthcare rationing and funding for health and health-related research | 88 | 39.6 | 134 | 60.3 |
| Health implications of migration, travel and displacement | | | | |
| Demonstrate an understanding the health risks posed by international travel or foreign birth | 15 | 6.7 | 207 | 93.3 |
| Recognize when travel or foreign birth places a patient a risk for unusual diseases or unusual presentation of common diseases and make an appropriate assessment or referral | 20 | 9.0 | 202 | 91.0 |
| Describe how cultural context influences perceptions of health and disease | 156 | 70.4 | 66 | 29.6 |
| Elicit individual health concerns in a culturally sensitive manner | 126 | 56.5 | 96 | 43.5 |
| Communicate effectively with patients and families using a translator | 20 | 9.4 | 202 | 90.6 |
| Identify world regions and/or travel activities associated with increased risk for life-threatening diseases including HIV/AIDS, malaria and multi-drug resistant tuberculosis | 70 | 31.4 | 152 | 68.6 |
| Social and environmental determinants of health | | | | |
| Describe how social and economic conditions such as poverty, education and life styles affect health and access to health care | 168 | 75.3 | 54 | 24.7 |
| List major social determinants of health and their impact on differences in life expectancy between and within countries | 116 | 52.0 | 106 | 48.0 |
| Describe the impact of low income, education and communication factors on access to and quality of health care | 142 | 64.1 | 80 | 35.9 |
| Describe the relationship between access to clean water, sanitation, food and air quality on individual and population health | 156 | 70.4 | 66 | 29.6 |
| Describe the relationship between environmental degradation and human health | 130 | 58.7 | 92 | 41.3 |
| Globalization of health and health care | | | | |
| Analyze how global trends in healthcare practice, commerce and culture, multinational agreements and multinational organizations contribute to the quality and availability of health and healthcare locally and internationally | 26 | 12.1 | 196 | 87.9 |
| Describe different national models or health systems for provision of healthcare and their respective effects on health and healthcare expenditure | 86 | 39.0 | 136 | 61.0 |
| Analyze how travel and trade contribute to the spread of communicable and chronic diseases | 60 | 26.9 | 162 | 73.1 |
| Analyze general trends and influences in the global availability and movement of healthcare workers | 28 | 12.6 | 194 | 87.4 |
| Describe national and global healthcare worker availability and shortages | 42 | 19.3 | 180 | 80.7 |
| Describe the most common patterns of healthcare worker migration and its impact on healthcare availability in the country that the healthcare worker leaves and the country to which he/she migrates | 12 | 5.4 | 210 | 94.6 |
| Healthcare in low-resource settings | | | | |
| Articulate barriers to health and healthcare in low-resource settings locally and internationally | 58 | 26.5 | 164 | 73.5 |
| Demonstrate an understanding of cultural and ethical issues in working with disadvantaged populations | 114 | 51.6 | 108 | 48.4 |
| Demonstrate the ability to adapt clinical skills and practice in a resource-constrained setting | 102 | 45.7 | 120 | 54.3 |
| Identify signs and symptoms for common major diseases that facilitate nursing assessment in the absence of advanced testing often unavailable in low-resource settings (cardiovascular disease, cancer, and diabetes) | 113 | 51.1 | 109 | 48.9 |
| Describe the role of syndromic management and clinical algorithms for treatment of common illnesses | 66 | 30.0 | 156 | 70.0 |
| Identify clinical interventions and integrated strategies that have been demonstrated to substantially improve individual and/or population health in low-resource settings (e.g. immunizations, essential drugs, maternal child health programs) | 128 | 57.4 | 94 | 42.6 |
| For students who participate in electives in low-resource settings outside their home situations, a demonstration that they have participated in training to prepare for this elective | 64 | 28.7 | 158 | 71.3 |
| Health as a human right and development resource | | | | |
| Demonstrate a basic understanding of the relationship between health and human rights | 130 | 58.7 | 92 | 41.3 |
| Demonstrate familiarity with organizations and agreements that address human rights in healthcare and medical research | 76 | 34.1 | 146 | 65.9 |
| Describe the role of WHO in linking health and human rights, the Universal Declaration of Human Rights, International Ethical Guidelines for Biomedical Research Involving Human Subjects (2002), Declaration of Helsinki (2008) | 105 | 47.1 | 117 | 52.9 |

Discussion

The profile of the research population is in accordance with other studies involving higher education faculty, with a predominance of women, between 30 and 50 years of age, with 20 years or more of experience and the majority working as undergraduate Nursing faculty⁽¹³⁻¹⁴⁾. This profile is aligned with the characteristics of the nursing profession. As regards the academic background, in the studies mentioned, most of the faculty members hold a Master's degree⁽¹³⁻¹⁴⁾, as opposed to the present study, in which the majority holds a Ph.D., which demonstrates that the Brazilian HEI are complying with the 1996 Education Law, whose paragraph 52 requires that at least one third of the teaching staff possesses a Master's or Ph.D. degree.

Concerning the global health competencies the students need to develop in their undergraduate nursing program, the means and standard deviation ranged between 3.04 (0.61) and 3.88 (0.32), demonstrating the Brazilian faculty members' satisfactory level of agreement.

Cronbach's α coefficient measures the degree of co-variance of a range of items and varies between 0 and 1. The closer to one, the greater the reliability of the scale. This coefficient was applied to the six domains of the questionnaire, resulting in a coefficient that ranged between 0.68 and 0.87, while the coefficient for the total questionnaire corresponded to 0.92.

In the contemporary world, the globalization process imposes great challenges on the health areas and Nursing is part of this process. These challenges partially derive from the many changes that continuously happen in the political, economic, social and cultural contexts and that directly affect the individual and collective health of the population⁽¹⁶⁾.

In view of this premise, these contents need strengthening in the Nursing curricula, in search of alignment with contemporary scientific and technological advances, involving innovative actions to respond to human, social and environmental needs, so as to be able to support and direct the professional practice related to teaching, research and care in the local and global contexts⁽¹⁶⁻¹⁷⁾.

It makes no sense to restrict education to the classroom, using the blackboard and chalk, with the predominance of a vertical relation in teaching. New concepts and teaching-learning models need to be

adopted with a view to achieving significant changes in the way knowledge is transmitted⁽¹⁷⁾.

In view of this scenario, educational entities are concerned with the use of new teaching models that permit the development of knowledge, interpersonal and ethical-legal technical skills and core attitudes to act in view of the targets of the national health systems, which follow the guidelines of the World Health Organization (WHO). New concepts and attitudes are needed that guarantee the problem-solving ability of health care⁽¹⁸⁻²⁰⁾, including possibilities to use Information and Communication Technologies (ICTs), facilitating access without geographical limits⁽¹⁹⁻²¹⁾.

In this context, to respond to the demands of the new professional profile, many HEI are adopting active and interactive teaching-learning methods, including the Internet as a tool to get access to information and share educational resources in class and in distance education. Nevertheless, research results in Brazilian nursing institutions demonstrate that on-line teaching is still incipient in Brazil⁽¹⁷⁾.

Therefore, it is highlighted that the HEI need to adopt investment policies in the technological training of faculty members and students, and need to invest in infrastructural changes with a view to the development of competencies, skills and knowledge in global health, optimized by the use of ICTs^(17,22).

In this study, many respondents did not answer the question about the inclusion of these competencies in the curriculum offered at the institutions they are affiliated with. Hence, it can be inferred that, although the research participants consider the importance of global health competencies, not all of them are addressed in the curriculum at the HEI where they teach, demonstrating a gap that calls for nursing education leaderships' attention. Therefore, it is important to establish partnerships and develop interrelationships among the different frontiers of human experience, in the attempt to guarantee each nursing student's preparation to take up the role as a global citizen, dealing with emerging health challenges⁽¹⁶⁾. Thus, it is fundamental for nursing educators to develop additional teaching strategies with a view to guaranteeing that students incorporate the concept of global citizenship⁽²³⁻²⁵⁾.

Hence, as indicated in an earlier study⁽¹²⁾, the global health competencies that need to be included in the nursing curricula should go beyond the biological perspective, in search of different possibilities for nurses' comprehensive action in human care.

Conclusion

The study demonstrated high mean levels of agreement among Brazilian nursing faculty with the global health competencies proposed by the GHEC, which students need to develop in their undergraduate nursing program. As to the inclusion of the competencies in the curriculum offered at the institution where they teach, the nursing faculty confirmed that some contents from the domains "Global burden of diseases", "Health implications of migration, travel and displacement", "Social and environmental determinants of health", "Healthcare in low-resource settings", "Health as a human right and development resource" are addressed, while competencies from the domain "Globalization of health and healthcare" are discussed less.

The HEI play a fundamental role in the education of nursing professionals. Therefore, it is extremely important that they adopt the global health competencies the students need to develop in their undergraduate nursing program. As future professionals who work in health and in the globalized world, investments are needed in competency development, so that these professionals are also creative and capable of transforming the local and global health realities, acting at the different complexity levels of health care, with responsibility and commitment.

In addition, investments are needed in proposals that permit faculty members and students' greater participation in health decisions, in interactive processes that involve bonding and empathy, technology and communication.

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