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O ensino de enfermagem gerontológica nas instituições públicas brasileiras de ensino superior

The teaching of gerontological nursing in Brazilian public higher education institutions

O ensino de enfermagem gerontológica nas instituições públicas brasileiras de ensino superior

Enseñanza de enfermería gerontológica en las instituciones públicas de enseñanza superior brasileñas

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Abstract

Objective: To describe the current state of nursing education regarding the care of older adults in Brazilian public higher education institutions
Method: Documentary, descriptive research with qualitative approach, with data from July 2017 collected in the platform of the Ministry of Education. Information on nursing undergraduate courses in public universities was collected following three phases of access and data collection: identification, selection and eligibility. There was a descriptive analysis for characterization and qualitative Inductive Thematic Analysis using *Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires* (IRAMUTEQ). The project followed the ethical norms of Resolution 510/2016 of the National Health Council.
Results: The 87 universities selected offered 154 undergraduate nursing courses, mostly in the Northeast Region. Out of the total number of courses, 69 (44.8%) had mixed disciplines (covering care of older adults) and 53 (34.4%) had specific disciplines on health of the older adult. In the content of the syllabi, the terms most used in the construction of the word cloud were: health (162), older adult (154), nursing (113), adult (81), assistance (72), process (69) and attention (52). In the similarity analysis, three main organizing topics of the disciplines related to this theme were observed: health, nursing and older adult.
Conclusion: Nursing education needs to be aligned with current public policies and consistent with the health care model proposed. Therefore, the training offered must be consistent with the current demands of the labor market.

Resumo

Objetivo: Descrever o estado da arte da formação do enfermeiro em instituições públicas brasileiras de ensino superior no que se refere ao cuidado ao idoso
Métodos: Pesquisa documental, descritiva e de abordagem qualitativa, com dados da plataforma do Ministério da Educação de julho de 2017. Foram levantadas informações dos cursos presenciais de graduação em enfermagem das universidades públicas, seguindo três fases de acesso e coleta dos dados: identificação, seleção e elegibilidade. Houve análise descritiva de caracterização e Análise Temática Indutiva qualitativa, utilizando o *Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires* (IRAMUTEQ). O projeto seguiu as normativas éticas vigentes da Resolução 510/2016 do Conselho Nacional de Saúde.
Resultados: As 87 universidades selecionadas ofertavam 154 cursos de graduação em enfermagem, a maioria na Região Nordeste. Do total de cursos, 69 (44,8%) apresentavam disciplinas mistas (que abordavam o cuidado ao idoso) e 53 (34,4%) específicas de saúde do idoso. Nos conteúdos das ementas, os termos mais utilizados na construção da nuvem de palavras foram: saúde (162), idoso (154), enfermagem (113), adulto (81), assistência (72), processo (69) e atenção (52). Na análise de similitude, verificaram-se três principais eixos organizadores das disciplinas voltadas a essa temática: saúde, enfermagem e idoso.
Conclusão: O ensino da enfermagem precisa estar alinhado às políticas públicas vigentes e ser coerente com o modelo de atenção à saúde proposto. Portanto, é fundamental que a formação ofertada seja condizente com as atuais demandas do mercado de trabalho.

Resumen

Objetivo: Describir el estado del arte de la formación del enfermero en instituciones públicas de enseñanza superior brasileñas en lo atinente al cuidado del anciano.
Métodos: Investigación documental, descriptiva, de abordaje cualitativo, con datos del Ministerio de Educación de julio de 2017. Fue relevada información de los cursos de grado presenciales en enfermería de las universidades públicas, continuando con tres fases de acceso y recolección de los datos: identificación, selección y elegibilidad. Se realizó análisis descriptivo de caracterización y Análisis Temático Inductivo cualitativo, utilizando la *Interface de R pour les Analyses Multidimensionnelles de textes et de Questionnaires* (IRAMUTEQ). Proyecto respetando normativas éticas vigentes, Resolución 510/2016 del Consejo Nacional de Salud.
Resultados: Las 87 universidades seleccionadas ofrecían 154 cursos de grado en enfermería, mayoritariamente en Región Noreste. Del total de cursos, 69 (44,8%) presentaban disciplinas mixtas (abordando cuidado del anciano) y 53 (34,4%) específicas de salud del anciano. En los contenidos de los sumarios, los términos más utilizados en la construcción de la nube de palabras fueron: salud (162), anciano (154), enfermería (113), adulto (81), asistencia (72), proceso (69) y atención (52). El análisis de similitud verificó tres ejes organizadores principales de las disciplinas orientadas a dicha temática: salud, enfermedad y anciano.
Conclusión: La enseñanza de enfermería debe alinearse a las políticas públicas vigentes y ser coherente con el modelo de atención de salud propuesto. Consecuentemente, es fundamental que la formación ofrecida se condiga con las actuales demandas del mercado laboral.

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Introduction

The worldwide increase in life expectancy along with the dramatic decrease in fertility rates have a direct impact on population ageing.[1,2] According to the World Health Organization (WHO),[3] by the year 2020, there will be approximately 200 million older adults and, by 2050, this number will reach approximately 310 million.

Considering the demographic transition and the aging process, several adjustments are necessary to meet the needs of the elderly population and to favor their autonomy and citizenship. These measures must guarantee fundamental human rights, such as: security, education, work and health.[4,5]

The process to ensure the right to health is complex and broad. The principles and guidelines supporting the construction of a care model must ensure that collective and individual demands are met in every step of health care, since entrance in the health system until exit, with the objective of preventing and treating illness and promoting health.[6] Thus, these actions will contribute to preserve the autonomy and maintain the functional capacity of older adults.[7]

In this context, nursing professionals assume a leading role in the organization of health services, due to their high representation in health care settings and to the functions they carry out in their daily work, since, besides acting directly in the care process, these professionals are also responsible for the management of processes and services.[8]

Given the above, the questions raised are: how is the nurse prepared by the Public Higher Education Institutions to care for older adults? Is the training aligned with the specific demands of the Brazilian demographic transition? Did these institutions consider the regional and global epidemiological profile of older adults during the training of nurses?

The Public Higher Education Institutions have a fundamental role in the construction of the profile of the nurse, since in the academic environment the students have the opportunity to develop and improve their competencies, abilities and attitudes for the exercise of the profession. This profile is decisive for the actions of the nurse in situations involving global health care issues and other issues specific to older adults, given the epidemiological transition in Brazilian society.[9]

In this sense, in article 5 of Resolution no. 3 of the National Council of Education/Higher Education Department of November 7, 2001, the National Curricular Guidelines for the Undergraduate Nursing Course establish the need to train nurses with specific abilities to "act professionally, understanding human nature in all its dimensions, expressions and evolutionary phases".[9]

The training of nurses must also be in line with the National Health Policy for Older Adults which, in its guidelines, values the permanent qualification in the area of health of older adults, in order to encourage teaching and research on the aging process.[7] The National Policy for the Older Adults reiterates these aspects and adds the need to include Gerontology and Geriatrics as curricular subjects in higher education courses in all areas of health.[10]

Despite the advances in public policies for the older adult, there are still many challenges in the academic education in the area of Gerontology and Geriatrics. The search for the theme in national and international literature revealed that there is still scarce research on the subject, which, given the demographic changes in the world and in Brazil, justifies the present research Given the expected increase of the older adult population, the life expectancy and the demands in health services, undergraduate courses in health, especially in nursing, must include disciplines related to Gerontology and Geriatrics, according to the policies established for this population. In this direction, the present study has as guiding question: What is the Brazilian panorama of nursing teaching in Public Higher Education Institutions regarding the care of older adults?

To answer this question, the following objective was defined: to describe the current state of nursing education regarding the care of older adults in Brazilian public higher education institutions.

Methods

This is a documentary, descriptive research with qualitative approach. Data were collected on the

platform of the Brazilian Ministry of Education in July 2017.

The sample was composed of active and face-to-face nursing undergraduate courses in the area of Health Sciences, of the Public Higher Education Institutions of Brazil. Bachelor's degree or Teaching License degree or both degrees were included.

Data collection included the phases of identification, selection and eligibility. In the first one, the Public Higher Education Institutions that offered the courses included were identified through the portal of higher education institutions and courses of the Ministry of Education (e-MEC).[11] Access to the official webpages of the Higher Education Public Institutions allowed to carry out the second phase and select the courses eligible for this study. In the third phase, the online access to nursing courses allowed identifying the curricular components related to the care of the older adult and those who addressed topics related to this topic, such as gerontology, geriatrics, gerontology and care/nursing care of the older adult were selected.

For the organization of the data, an analysis matrix was created using Excel software with the following information: "State"; "Higher Education Public Institutions"; "Courses"; "Type of curriculum", "In activity", "Online data availability", "Mixed discipline", "Specific discipline on care for the older adult" and "Discipline syllabus".

The numerical data were arranged in tables, according to simple and relative frequency, and grouped by region. The qualitative data were analyzed with the technique of Inductive Thematic Analysis[12] using the software IRAMUTEQ (*Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires)* 0.6 alpha 3, Brazilian version, which provides statistical analysis of text excerpts and tables composed by individuals and words.[13,14]

For the construction of the figures, similarity analysis based on the graph theory was used. This is an ideal mathematical model capable of identifying co-occurrences between words and its outcomes. This model indicates the connectivity between words, helping to identify the structure of a textual corpus and pointing out common parts and specificities in function of the descriptive variables identified in the analysis. In this phase, the word cloud was also used. The word clouds is a simpler lexical analysis that graphically groups and organizes words according to the frequency with which they are used.[14] In both analyzes, a frequency greater or equal to five was chosen in order to generate more understandable figures.

Since this study used free and public data available in the portal of the Ministry of Education, there was no need to submit the project to the Research Ethics Committee according to CNS Resolution no. 510/2016.

Results

In the e-MEC system, in 2017, 87 public higher education institutions which provided 154 nursing undergraduate courses were identified. The courses were distributed as follows: 144 (93.5%) Bachelor's degree and 10 (6.5%) Bachelor's and teaching license degree. The courses were offered predominantly in the Northeast and Southeast Regions. Fewer institutions were found in the Center-west and North regions (Table 1).

Of the total number of courses, 90 (58.4%) 69 (44.8%) disciplines were considered mixed (addressing care of older adults) and 53 (34.4%) courses had specific health disciplines on health of older adults (Table 1).

On the syllabi analyzed, the terms most cited and therefore most used in the construction of the word cloud were: health (162), older adult (154), nursing (113), adult (81), assistance (72), process (69) and attention (52). Figure 1 also shows the predominance of words such as care (50), aging (45), disease (40), surgery (40), aspect (37), practical (31) and political (33).

The similarity analysis allowed portraying the relationship between the words. At this stage, a total of 259 words were analyzed, those with frequency greater than or equal to five were selected: 147. With this analysis, it was possible to observe how

Note: It is a figure with clouds of words generated from the analysis of the software Iramuteq, in the Portuguese version.
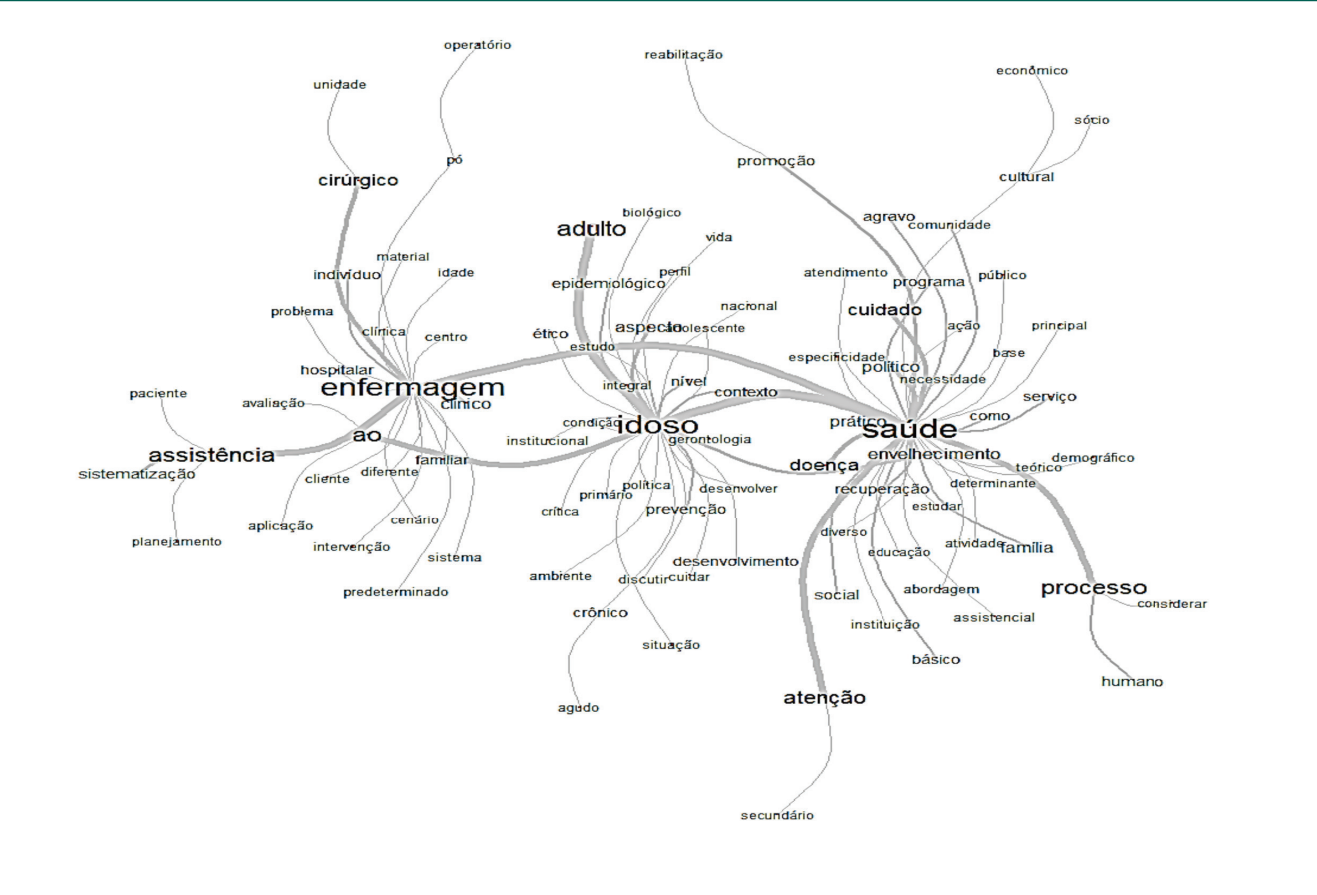
Figure 1. Word cloud built extracted from the syllabi of the disciplines that address the care of older adults and of specific disciplines on the health of the older adult

Table 1. Distribution of nursing courses and disciplines related to care for the older adult. Regions North, Northeast, Center-West, Southeast and South, Brazil

Variables	North n(%)	Northeast n(%)	Center-west n(%)	Southeast n(%)	South n(%)	Total n(%)
Nursing Course	18(11.7)	62(40.3)	20(13.0)	33(21.4)	21(13.6)	154(100.0)
Disciplines that address the care of the older adult	4(5.0)	22(27.2)	9(11.1)	33(40.7)	13(16.0)	81(100.0)
Specific Discipline on Health of Older Adults	6(11.3)	23(43.4)	5(9.4)	14(25.5)	5(9.4)	53(100.0)

the syllabi related the various words to describe subjects related to the care of the older adult.

Figure 2 allows to identify the structure, the central nucleus and the peripheral system of the content of the syllabi analyzed. The figure also shows the three main organizing topics of the subjects related to care of the older adult: health, nursing and older adult.

Note: It is a figure with clouds of words generated from the analysis of the software Iramuteq, in the Portuguese version.

Figure 2. Similarity of words extracted from the syllabi of the disciplines that address the care of older adults and of specific disciplines on the health of the older adult

Discussion

The increase in the number of nursing courses in several Brazilian regions is a result of incentives and programs of the federal government. The Support Program for Restructuring and Expansion Plans of Federal Universities (REUni), for example, favored the approval of new universities and the expansion of existing ones through the opening of new campuses and courses.[15,16]

One of the proposals of this expansion was the interiorization of educational institutions, so that regions with few university places would be contemplated with new courses capable of improving social deficiencies and labor market issues. This way, new universities, campuses and courses have become part of a strategic for political, social and economic governance.[16]

This increase in places offering nursing undergraduate courses has also been identified in other countries, which implement development policies in the area of education. Besides the quantitative aspect, the quality of teaching in the area of nursing has also been undergoing modifications, aimed at meeting the technological advances in the health area and the changes in the population epidemiological profile resulting from the globalization process.[17,18]

This movement has the support of the World Health Organization, which seeks global strategies for valuing the nursing profession and proposes local guidelines for Latin America and the Caribbean, aiming to improve nursing study programs and qualify the professionals.[19,20]

Table 1 shows the distribution of nursing courses of public universities in each of the Brazilian regions after the expansion policies. The expansion process balanced the offer of courses throughout the country, except in the Northeast region, which still has a high number of courses compared to other regions. However, if private institutions are also considered, the increase in places in nursing courses is directly related to the degree of economic and social development of the region.[21]

This balance in the distributions of places in public nursing courses was possible because, in ad-dition to the expansion and interiorization process, there was also an increase in investments to guarantee access and permanence of the students throughout the course. Thus, in addition to the creation of mechanisms that ensured access to low-income students, there was also assistance for the conclusion of the course. The resources allocated to the National Student Assistance Program have served this purpose, since they have guaranteed student housing, food, transport, health, digital inclusion, culture, sports, day care and pedagogical support.[22,23]

Regarding the disciplines, the topic of care of the older adult was present in all nursing courses analyzed, either by a description in topics, when it was an integrated curriculum, associated with another area, such as adult health, or specifically, as the discipline health of the older adult. These findings point to a transition period, also evidenced by changes in teaching methodologies, adoption of active methodologies or changes in approach to the topic. These changes are indicative of the need for a careful and comprehensive look at the specificities of the aging process and the consequent care needed.[24,25]

Active methodologies, such as aging simulation games, are able to favor empathy and good attitudes with the older adult and, therefore, may be essential in the student's preparation for the first contact with gerontology. In the future, this may improve the quality of the care provided.[26]

In addition to the simulation, the "Facilitated Learning to Advance Geriatrics" (FLAG) program aims to expand geriatric knowledge among professor Nurses, so that they can teach students the specificities of each phase of the aging process. After the implementation of this program, geriatrics studies were no longer limited or absent in the curriculum, and this motivated learning about the process of senescence and senility and the processes that are part of this trajectory.[27]

The frequency with which certain words were used in the syllabus of the disciplines demonstrates concern and zeal, considering the older adult as the center of care, and their health as a consequence of caring, with the nurse as the protagonist of this process. Thus, the central nuclei identified allow estab-

lishing guidelines for the disciplines that address the aging process and inferring values that will be incorporated into the professional identity of nursing students. This finding corroborates the curricular guidelines of nursing undergraduate courses, since it demonstrated that the older adult is regarded as essential in the training of nurses.[9]

The word "adult" was also prominent, perhaps because, historically, the health of the older adults has often been addressed in the discipline Adult Health. This way, this word appears quite frequently.

The other words that were frequently cited express the scope of the disciplines and the contextualization of the different environments in which the care of the older adult takes place. Thus, this care has been discussed from primary care to health institutions. Different actors were also identified in this care, which includes self-care, family or non-family caregivers and multi-professionals approaches.[25]

The word cloud also revealed that specific nursing subjects were included in the teaching-learning process, such as the elaboration of care protocols, systematization, organization of health services, and formulation of public policies for the older adult. The cloud suggests a proactive construction of the knowledge produced in undergraduate nursing courses in public institutions in Brazil, indicating an strengthening of the performance of the nurse and a possibility of interdisciplinary actions, in addition to the formation of political consciousness.[21]

The maximum tree confirms this possibility, since the analysis of similarity provides a hierarchical classification that puts the words older adult, health and nursing at the highest level. These three elements also establish a correlation with each other, forming the central structure of the tree. This perception is confirmed through the co-occurrence index in the maximum similarity tree,[28] where the elements health, older adult and nursing, for their symbolic value, are represented as the center of a star formation, which provides an understanding of the relationships between the elements and, consequently, gives meaning to the formulation of the syllabi of the disciplines.

The discussion about the data, based on these three basic elements of the syllabi, contributes to correlate teaching with nursing practice. The teaching-learning process suggests the composition of the work process in older adult care presents a structure in which nursing is the agent of care, health is the purpose of care and the older adult is the object of care. This relationship between teaching and work, in an objective or subjective way, is extremely important in the academic formation, as it contributes to the construction of an adequate professional identity and the development of essential skills for future professionals.[29]

A study carried out in Saudi Arabia confirmed the importance of curricula for the formation of attitudes and knowledge fundamental for nursing practice. However, the authors added the need to arouse in students the desire to care for and to dedicate themselves to the older adult, so that they become examples to follow. Thus, besides the insertion of curricular contents on the theme, the dedication and enthusiasm of the faculty are essential for education in gerontology.[30]

However, this study found that specific disciplines on geriatrics and gerontology, active methodologies and content guided by the current policies for older adults and aligned with the current model of care are present only sporadically and randomly in different institutions. Therefore, there is an evident need for a curricular guideline for nursing courses, establishing a solid articulation between academic education and policies addressing the care of the older adult.

This study found barriers during the course of this analysis that represented limitations. For example, the analysis was limited to data available online and some undergraduate courses did not provide their pedagogical projects in the university websites. Another limitation was the non-standardization of the data found, which led the researchers to a detailed search for information in additional links of Public Higher Education Institutions, such as Dean of Undergraduate Studies, Dean of Education, Resolutions of University Councils and other.

Conclusion

Considering that the aging process is contextualized in a demographic and epidemiological

transition, the teaching of gerontology and geriatrics in undergraduate nursing courses becomes a great challenge for coordinators and professors. In this study, the teaching of this subject was identified in models associated with active methodologies in integrated curricula, as well as in traditional models, without a specific learning space, including the subject as topics in mixed disciplines. Despite the presence of important theoretical contents, it is still necessary to broaden the knowledge on nursing interventions and to provide practical activities related to direct care for the older adult. Nursing courses in different regions of Brazil present different professors' profiles. These differences do not reflect regional demographic and epidemiological characteristics. However, they demonstrate differences in learning methodologies and the complexity with which the subject is treated.

Acknowledgments

Collaborations

Rodrigues RAP, Bueno AA, Silva LM, Kusumota L, Almeida VC, Giacomini SBL and Reis NA declare that they contributed to the conception of the study, analysis and interpretation of the data, relevant critical review of the intellectual content and approval of the final version to be published.

References

1. Junqueira Dias Myrrha L, Turra CM, Wajnman S. [Te contribution of births and deaths to population aging in Brazil, 1950 a 2100]. Rev Latinoam Población. 2017;11(20):37-54. Portuguese.

2. Melo LA, Ferreira LM, Santos MM, Lima KC. [Socioeconomic, regional and demographic factors related to population ageing]. Rev Bras Geriatr Gerontol. 2017;20(4):493-501. Portuguese.

3. Organizacion Mundial de la Salud (OMS). Informacíon general para el Día Mundial de la Salud.   [Internet]. Geneva: OMS; 2012 [cited 2018 Jan 06]. Available from: http://apps.who.int/iris/bitstream/10665/75254/1/WHO_DCO_WHD_2012.2_spa.pdf

4. Nunes AM. [Modernization, aging and info-exclusion in Portugal]. Rev Kairós Gerontol. 2017;20(2):79-99. Portuguese.

5. Quaresma ML, Ribeirinho C. [Aging - Challenges of the XXI Century]. Rev Kairós Gerontol. 2016;19(3):29-49. Portuguese.

6. Mendes EV. A construção social da atenção primária à saúde. Conselho Nacional de Secretários de Saúde; 2015. p. 1-193.

7. Brasil. Ministério de Saúde. Portaria n. 2528/GM, de 19 de outubro de 2006. Aprova a Política Nacional de Saúde da Pessoa Idosa [Internet]. Brasília (DF): Ministério da Saúde; 2006. [citado 2018 May 25]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2006/prt2528_19_10_2006.html

8. Brasileiro FS, Gonçalves EF, Targino MG. [New perspectives for university social responsibility: a reflection on the popular education project and health support and the family (pepasf) - Federal University of Paraíba, Brazil]. Rev FSA. 2014;11(3):208-29. Portuguese.

9. Brasil. Resolução da CNE/CES nº 3, de 7 de novembro de 2001. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Enfermagem [Internet]. Brasília (DF); 2001. [citado 2018 Jan 10]. Disponível em: http://portal.mec.gov.br/cne/arquivos/pdf/CES03.pdf.

10. Brasil. Leis, Decretos. Lei n. 8.842, de 04 de janeiro de 1994. Dispõe sobre a Política Nacional do Idoso, cria o Conselho Nacional do Idoso e dá outras providências [Internet]. Brasília (DF); 1994 [citado 2018 Mai 25]. Disponível em http://www.planalto.gov.br/cci- vil_03/leis/l8842.htm

11. Brasil. Ministério da Educação. Instituições de Educação Superior e Cursos Cadastrados. Sistema E-Mec [Internet]. Brasília (DF): Ministério da Educação; 2018. [citado 2017 Out 16]. Disponível em: http://emec.mec.gov.br/

12. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77-101.

13. Ratinaud P, Marchand P. Application de la méthode ALCESTE à de "gros" corpus et stabilité des "mondes lexicaux": analyse du "Cable-Gate" avec IraMuTeQ. Actes des 11eme Journées internationales d'Analyse statistique des Données Textuelles [Internet]. 2012. p.835-44. [cited 2017 Oct 06]. Available from: http://lexicometrica.univparis3.fr/jadt/jadt2012/Communications/Ratinaud,%20Pierre%20et%20al.%20-20Application%20de%20la%20methode%20Alceste

14. Camargo BV, Justo AM. [IRAMUTEQ: a free software for analysis of textual data]. Temas Psicol. 2013;21(2):513-8. Portuguese.

15. Mancebo D, Araujo do Vale A, Martins TB. [Expansion of higher education policy in Brazil: 1995-2010]. Rev Bras Educ. 2015;20(60):31-50. Portuguese.

16. Nascimento FS, Helal DH. Expansion and interiorization of federal universities: an analysis of the implementation process of the campus of the North Coast of the Federal University of Paraíba (Brazil). Rev GUAL. 2015;8(1):45-67. Portuguese.

17. Zhu J, Rodgers S, Melia KM. The impact of safety and quality of health care on Chinese nursing career decision-making. J Nurs Manag. 2014;22(4):423-32.

18. Wang CC, Whitehead L, Bayes S. Nursing education in China: Meeting the global demand for quality healthcare. Int J Nurs Sci. 2016;3(1):131-6.

19. Mendes IA, Ventura CA. [Nursing protagonism in the UN Goals for the people's health]. Rev Lat Am Enfermagem. 2017;25:e2864. Portuguese.

20. Cassiani SH, Wilson LL, Mikael SS, Peña LM, Grajales RA, McCreary LL. [The situation of nursing education in Latin America and the Caribbean towards universal health]. Rev Lat Am Enfermagem. 2017;25:e2913. Portuguese.

21. Kloh D, Reibnitz KS, Boehs AE, Wosny AM, Lima MM. [The principle of integrality of care in the political-pedagogical projects of nursing programs]. Rev Lat Am Enfermagem. 2014;22(4):693-700. Portuguese.

22. Veloso TC, Maciel CE. [Access and permanence in higher education – analysis of legislation and education indicators]. Rev Educ Questão. 2015 ;51(37):224-50. Portuguese.

23. Maciel CE, Lima EG, Gimenez FV. [Policies and continuity for students in higher education]. RBPAE. 2016;32(3):759-81. Portuguese.

24. Carvalho CR, Hennington EA. [The approach of aging in higher education of health professionals: an integrative review]. Rev Bras Geriatr Gerontol. 2015;18(2):417-31. Portuguese.

25. Perez CF, Tourinho FS, Carvalho Júnior PM. [Competencies in the nurse education process to care for the aging: an integrative review]. Texto Contexto Enferm. 2016; 25(4): e0300015. Portuguese.

26. Chen AM, Kiersma ME, Yehle KS, Plake KS. Impact of the geriatric medication game® on nursing students empathy and attitudes toward older adults. Nurse Educ Today. 2015;35(1):38-43.

27. Krichbaum K, Kaas MJ, Van Son CR. Facilitated learning to advance geriatrics: increasing the capacity of nurse faculty to teach students about caring for older adults. Gerontologist. 2015;55(1):154-64

28. Pontes AP, Oliveira DC, Gomes AT. Os princípios do Sistema Único de Saúde estudados a partir da análise de similitude. Rev Lat Am Enfermagem. 2014; 22(1): 59-67. Portuguese.

29. Ortega MC, Cecagno D, Llor AM, Siqueira HCH, Montesinos MJ, Soler LM. [Academic training of nursing professionals and its relevance to the workplace]. Rev Lat Am Enfermagem. 2015;23(3):404:10. Portuguese.

30. Alsenany S, Alsaif A. Gerontology course in the nursing undergraduate curricula. Rev Esc Enferm USP. 2014;48(6)1077-1084. Portuguese.