


Panorama of teaching on older adults or aging in undergraduate nutrition programs at Brazilian Higher Education Institutions

Panorama do ensino sobre idosos ou envelhecimento nos cursos de graduação em nutrição das Instituições Brasileiras de Ensino Superior

Renata Breda Martins^a , Claus Dieter Stobäus^b , Carla Helena Augustin Schwanke^a 

^aPontifícia Universidade Católica do Rio Grande do Sul – Porto Alegre (RS), Brazil.

^bRetired researcher – Porto Alegre (RS), Brazil.

Correspondence data

Carla Helena Augustin Schwanke – Av. Ipiranga, 6.681, Prédio 40, 8º andar – Partenon – CEP: 90619-900 – Porto Alegre (RS), Brazil.
E-mail: schwanke@puers.br

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Abstract

Objective: This study aimed to present an overview of teaching about older adults or aging in undergraduate nutrition programs of higher education institutions (HEIs) in Brazil.

Methods: This is a cross-sectional study with data obtained from HEI websites in 2018.

Results: Most of the 527 analyzed HEIs were private institutions (88.05%). Courses related to older adults/aging were offered by 63.98% of the HEIs; 58.04% included shared content (not only involving older adults), 76.15% were offered from the fifth to the eighth semester, 53.19% were theoretical, 61.51% had a workload ≥ 60 hours/semester, and 92.16% were mandatory pedagogical activities. Internships involving older adults (one or more) were observed only in 4.65% of the programs.

Conclusions: Approximately one-third of Brazilian HEIs do not offer courses on older adults or aging in their undergraduate nutrition programs. However, population aging, with its inherent demands, is a reality in Brazil and in the world. Further studies are suggested to expand the reflection and contribute to a more qualified training of nutritionists for the care of older adults.

Keywords: aged; aging; geriatrics; gerontology; higher education; nutrition programs.

Resumo

Objetivo: O objetivo deste trabalho foi apresentar um panorama do ensino sobre idosos ou envelhecimento nos cursos de graduação em Nutrição das Instituições de Ensino Superior (IES) brasileiras.

Metodologia: Foi realizado um estudo transversal, cujos dados foram obtidos nos endereços eletrônicos das IES em 2018.

Resultados: Das 527 IES analisadas, a maioria era de ensino privado (88,05%). As disciplinas relacionadas aos idosos/envelhecimento eram oferecidas por 63,98% das IES, sendo 58,04% oferecidas de forma compartilhada (envolvendo não apenas idosos), 76,15% do 5º ao 8º semestre, 53,19% do tipo teórico, 61,51% possuíam carga horária ≥ 60 horas/semestre e 92,16% atividades pedagógicas obrigatórias. Estágio com o envolvimento de idosos (um ou mais) foi observado em apenas 4,65% dos cursos.

Conclusão: Aproximadamente 1/3 das IES brasileiras não oferece disciplinas sobre idosos ou envelhecimento em seus cursos de graduação em Nutrição. Contudo, o envelhecimento populacional, com suas demandas inerentes, é uma realidade no Brasil e no mundo. Sugere-se que sejam conduzidos novos estudos para ampliar a reflexão e contribuir para uma formação de nutricionistas mais qualificada para o atendimento do idoso.

Palavras-chave: idoso; envelhecimento; geriatria; gerontologia; ensino superior; programas de nutrição.



INTRODUCTION

Brazil is experiencing a moment of demographic and epidemiological transition, just as other developing countries, with a reduction in the young population and an increase in the absolute and relative numbers of older adults.^{1,2} Projections for the Brazilian population indicate that the percentage of older adults will reach one-quarter of the population by 2060; In addition, the range of people over 65 years old will increase by 20% in 2046, reaching 25.5% in 2060 and leading Brazil to the ranking of the ten countries with the largest contingent of older adults.²

This demographic transition challenges governments, educational institutions, and society to meet the needs of this aging population, which includes health care and the training of professionals who must be qualified for this demand.³ Older adults require approaches that surpass the biomedical model focused on the disease, thus their care must include biological, psychological, social, and cultural aspects.^{3,4} In line with this transition, some of the specific Brazilian milestones related to older adults that have contributed to changes are emphasized, addressing the inclusion of teaching about older adults at all levels of education, as mentioned in the National Policy for Older Persons (Política Nacional do Idoso)⁵ and in the National Health Policy for Older Persons (Política Nacional de Saúde da Pessoa Idosa).⁶

The inclusion of teaching about older adults is supported by the Brazilian Law No. 8,842,⁵ which establishes in chapter IV, section 10(c), that “Gerontology and Geriatrics should be included as curricular courses in university programs”. This inclusion demands that, over the semesters/years, higher education institutions (HEIs) undergo reformulations of their curricula to comply with the law.

The National Health Policy for Older Persons recommends, among other aspects, that the permanent articulation between curricula, methodologies, and didactic material for the training of health professionals be adapted to address the aging process, valuing older adults.⁷ The Brazilian Ministry of Education (MEC) made it mandatory, in 2005, for HEIs to provide, through electronic means, information and updates on the programs offered, including their curricular components, programs of study, coordinators, and current professors, in order to facilitate access to information.⁸

In an integrative review that aimed to identify how the health and aging of older adults have been addressed in the university education of health care professionals, 20 international studies (15 from the USA, 2 from Spain, 1 from Portugal, 1 from Cuba, and 1 from Pakistan) and 24 Brazilian studies published from 2003 to 2013 were analyzed. Both national and international studies

similarly discussed this topic. Researchers found that nursing and medicine were the programs that most frequently researched content and practices that were relevant to undergraduate education. Studies involving teaching about older adults in undergraduate nutrition programs were not identified.⁹

Undergraduate nutrition programs, throughout their trajectory in Brazil, have followed the overall trend of expansion of undergraduate programs. An increasing number of professionals have thus entered the job market.¹⁰ The Brazilian Federal Nutrition Council (Conselho Federal de Nutricionistas [CFN]) also indicates that between 1980–2019, there was an expansion and diversification of nutritionists’ areas and subareas of practice, such as teaching and research (area) and geriatrics (subarea linked to the clinical area).¹¹ The nutritional demands of older adults are differentiated from those of other age groups, requiring a specific approach to the care and monitoring of these individuals.^{12,13}

Therefore, this study aimed to present an overview of teaching about older adults or aging in undergraduate nutrition programs of Brazilian HEIs as well as an overview of the HEIs that offer such courses.

METHODS

This is a cross-sectional, descriptive, analytical study. A search was performed for HEIs accredited by the MEC in the e-MEC register¹⁴ in March 2018. This included HEIs that offered undergraduate nutrition programs in traditional (in-person classes) or semi-supervised modalities. HEIs that did not provide electronic access to this information, whose websites were not available, or that offered programs exclusively in distance learning were excluded.

The curricula, program of study, and/or political pedagogical project (PPP) of the programs were searched for courses containing the following terms: older adults, aging, geriatrics, gerontology, and gerontological. Courses that contained these terms were considered “courses on older adults or aging.” In the Brazilian context, the curriculum is a set of courses (also known as “subjects”) in which one or more contents are covered.

The following variables were investigated:

1. Regarding the HEIs: funding source (private/public); type of institution; electronic address at e-MEC.
2. Regarding the nutrition program: program modality; score in the National Exam for the Assessment of Student Performance (Exame Nacional de Desempenho dos Estudantes [ENADE]);¹⁵ minimum course load according to the e-MEC; curriculum structure; year

when the current curriculum structure started; course load reported by the HEI; internship description.

- Regarding the provision of courses on older adults or aging: course modality, class type; semester at which it was offered; workload; pedagogical activities; internship involving older adults; availability of courses by Brazilian geographic region; proportion of undergraduate nutrition programs considering the number of older adults by Brazilian geographic region (Central-West, Northeast, North, Southeast, and South).

Data collection was performed on the HEI websites between March and August 2018. Three attempts were made, in subsequent months, to retrieve data from websites that were unavailable at the first data collection (websites under maintenance or construction). The search browsers used were Google Chrome®, Mozilla Firefox®, or Internet Explorer®, in this order, depending on website availability. For the HEIs that offered programs in more than one modality (in-person, semi-supervised, and distance learning), information was only recorded for the in-person program.

The starting date of the curriculum structure was collected from the information made available by each institution on their webpages, in the curriculum, program of study, and/or in the PPP, and the results were grouped into decades for our analysis. Regarding ENADE scores, we used the last exam taken by undergraduate nutrition students in 2016. The minimum program load classified programs into < 3,200 hours or ≥ 3,200 hours.¹⁶

The study logistics flowchart is described in Figure 1. Data were recorded in an Excel spreadsheet and subsequently analyzed using SPSS software, version 22.0. Categorical data were described using absolute and relative frequencies. Continuous data, previously tested for normality, were presented using means and standard deviations. The Pearson's chi-squared test was used to compare the frequency of courses involving older adults in different Brazilian geographic regions.

In order to calculate the proportion of undergraduate nutrition programs that offered courses about older adults/aging compared to the number of older adults by Brazilian geographic region, we used projections for the Brazilian population provided by the Brazilian Institute of Geography and Statistics (IBGE),¹⁷ according to the equation described below.

Proportion of courses about older adults/aging compared to the number of older adults =	$\frac{\text{HEIs with courses about older adults/aging}}{\text{Absolute number of older adults}} \times 100\,000$	inhabitants
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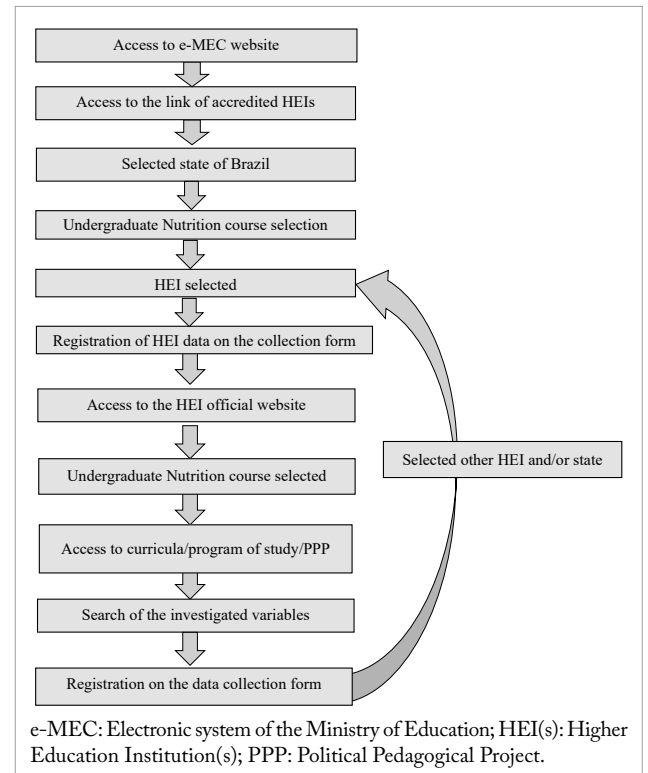


FIGURE 1. Flowchart of data collection logistics.

This study was approved by the scientific committee of the Institute of Geriatrics and Gerontology at Pontificia Universidade Católica do Rio Grande do Sul (PUCRS) under No. 8,178. As the study does not involve human beings, but data provided by the MEC and HEI websites, the project was not submitted to the PUCRS Research Ethics Committee.

RESULTS

We evaluated information from 527 HEIs that offered undergraduate nutrition programs. Figure 2 presents the selection flowchart of HEIs with undergraduate nutrition programs.

The general characteristics of HEIs offering undergraduate nutrition programs are described in Table 1. Regarding the institutions' funding sources, there was a higher frequency of private institutions. Most of the analyzed institutions were colleges. Approximately one-fifth of the HEIs did not have their electronic addresses available on the e-MEC website, but all of them were eventually retrieved through an active search. As for the program modality, the highest frequency was found for in-person classes. Considering ENADE, students from most of the HEIs took the exam in 2016 and, of these, the majority scored 3 and 4. Regarding the minimum workload, 3 institutions presented values below what is established

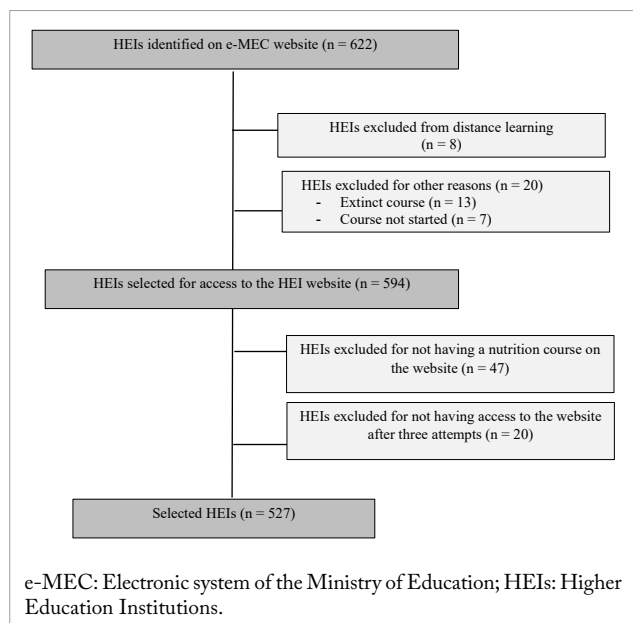


FIGURE 2. Flowchart of selection of Higher Education Institutions with undergraduate Nutrition course at e-MEC.

by law: these were in the states of Goiás, Rio de Janeiro, and Minas Gerais. The average minimum workload according to the e-MEC was 3561.17 ± 745.78 hours. Most of the institutions provided the curriculum on the website, which more frequently started between 2010 and 2018 with a workload ≥ 3200 hours as informed by the HEIs. The average course load reported by the institutions was 3480.19 ± 353.72 hours. Regarding the course descriptions, few HEIs made this component available on the program website (Table 1).

Table 2 shows the characteristics of curricular components of undergraduate nutrition programs. Most courses with content on older adults included content shared with other stages of the life cycle (not only involving older adults/aging); were theoretical; were mandatory educational activities; and had a semester load of ≥ 60 hours. Considering the semesters at which they were offered, courses that involved study on older adults were in the middle of the program, between the fifth and eighth semesters. Regarding internships in areas related with older adults, only 4.65% of the programs offered this activity. Therefore, as not all information was available on the HEI websites, the N for each variable presented in Table 2 was different, ranging from 141 in the “class type” to 447 (total number of HEIs with or without information on courses about older adults available on their websites) in the “courses involving older adults” variable. No difference was observed regarding the offer of courses (with courses) or

TABLE 1. General characteristics of HEIs with undergraduate Nutrition courses and of undergraduate Nutrition courses (n = 527).

Variables	n (%)
General characteristics of HEIs	
Administrative category*	
Private	464 (88.05)
Public	63 (11.95)
Academic Organization*	
College	220 (41.75)
University center	121 (22.96)
University	184 (34.91)
Data not informed	2 (0.38)
Electronic address*	
Available	427 (81.02)
Not available	100 (18.98)
General characteristics of Nutrition courses	
Course Modality*	
Face-to-face course	455 (86.34)
Semi-supervised	72 (13.66)
Evaluation at ENADE 2016*	
Evaluated	280 (53.13)
Not evaluated	17 (3.23)
Data not informed	230 (43.64)
ENADE concept (n = 280)*	
1	3 (1.07)
2	54 (19.29)
3	134 (47.86)
4	76 (27.14)
5	13 (4.64)
Minimum course load informed by the e-MEC*	
< 3,200 hours	3 (0.57)
$\geq 3,200$ hours	524 (99.43)
Curriculum structure†	
Available	448 (85.01)
Not available	79 (14.99)
Beginning of the curriculum (n = 246)†	
1999 – 2009	7 (2.85)
2010 – 2018	239 (97.15)
Workload reported by the course (n = 355)†	
< 3,200 hours	5 (1.41)
$\geq 3,200$ hours	350 (98.59)
Program of study†	
Available	103 (19.54)
Not available	424 (80.46)

HEIs: Higher Education Institutions; ENADE: Exame Nacional de Desempenho dos Estudantes (National Assessment of Student Achievement). *e-MEC: Electronic system of the Ministry of Education; †HEI websites with undergraduate Nutrition course.

Source: e-MEC Electronic system of the Ministry of Education (2018); HEI websites with undergraduate Nutrition course (2018).

TABLE 2. Characteristics of the curricular components of undergraduate Nutrition courses.

Variables	n (%)
Classes involving older adults/aging (n = 447)*	
Offered	286 (63.98)
Not offered	161 (36.02)
Class modality (n = 286) [†]	
Exclusive	120 (41.96)
Shared	166 (58.04)
Class type (n = 141) [†]	
Theoretical	75 (53.19)
Theoretical + practical	66 (46.81)
Semester offered (n = 218) [†]	
1st semester	0
2nd semester	1 (0.46)
3rd semester	12 (5.50)
4th semester	39 (17.89)
5th semester	61 (27.98)
6th semester	50 (22.94)
7th semester	27 (12.39)
8th semester	28 (12.84)
Course load (hours) (n = 265) [†]	
< 60 horas	102 (38.49)
≥ 60 horas	163 (61.51)
Pedagogical activity (n = 268) [†]	
Mandatory	247 (92.16)
Elective/optional	21 (7.84)
Internship involving older adults/aging (n = 409) [†]	
Offered	19 (4.65)
Not offered	390 (95.35)

*Information available in the title of the class or in its program of study (Pedagogical Political Project/curriculum/program of study); [†]information related to classes about older adults with information available on the websites of the HEIs. Source: Pedagogical Political Project and/or curriculum and/or program of study available on the websites of the HEIs with undergraduate Nutrition course (2018).

not (without) about older adults between private and public institutions ($p = 0.606$).

The frequency of nutrition programs that offered courses on the health of older adults in different Brazilian geographic regions, as well as the proportion of programs with these courses compared to the absolute number of older adults (per 100,000 inhabitants), are shown in Table 3. The Southeast region had the highest number of HEIs, followed by the Northeast region in the total HEIs. Among HEIs that provided information on the courses offered, most were in the North and a lower frequency was seen in the Northeast region.

No statistically significant difference ($p \leq 0.5$) was observed on the availability of courses about older adults by Brazilian geographic region. The highest proportion of programs with courses about older adults or aging was found in the North and the lowest, in the Southeast.

DISCUSSION

This study aimed to present an overview of teaching about older adults or aging in undergraduate nutrition programs of Brazilian HEIs. The information obtained from the e-MEC was that in 2018, 547 Brazilian HEIs offered active undergraduate programs in nutrition, in-person/semi-supervised classes, and only 527 HEIs had electronic addresses available.

According to empirical research performed by Vasconcelos and Calado¹⁰ with data from the CFN (number of nutrition professionals and programs) and the research “Professional Insertion of Nutritionists in Brazil” (performed by the CFN in 2005), until 1996, there were 45 undergraduate nutrition programs in Brazil. In 2009, there were 391 programs: from 1997 to 2009, there was a 769% increase.¹⁰ Considering that

TABLE 3. Offer of classes about older adults or aging in undergraduate courses in Nutrition in different geographic regions.

Geographic regions	Total HEIs n = 527 n (%)	HEIs n = 447*		p-value	Absolute N of older adults [‡]	Proportion D/I [†]
		With classes about older adults or aging n (%)	Without classes about older adults or aging n (%)			
South	81 (15.37)	51 (65.38)	27 (34.62)	0.749	4.636.676	1.10
Midwest	51 (9.68)	26 (65.00)	14 (35.00)		1.808.719	1.44
Southeast	195 (37.00)	107 (61.85)	66 (38.15)		13.245.156	0.81
Northeast	154 (29.22)	74 (60.66)	48 (39.34)		6.823.891	1.08
North	46 (8.73)	28 (82.35)	6 (17.65)		777.701	3.60

HEIs: Higher Education Institutions; *absolute and relative number of HEIs with information available on their websites; [‡]Brazilian population projections; [†]Proportion D/I= (HEI with a class about older adults or aging/absolute number of older adults) x 100.000 inhabitants.

Source: Electronic system of the Ministry of Education (2018); HEI websites with an undergraduate Nutrition course (2018); Brazilian population projections (IBGE, 2018).

the first undergraduate nutrition program in Brazil was established in the 1940s, 80 years of trajectory were completed in 2020. The greatest expansion in the offer of programs thus occurred since 1990.^{10-15,17,18}

This increase in supply occurred due to several factors, such as the search for themes on food, nutrition, and nutritional education broadcasted in the media¹⁹ and the greater demand for higher education and qualification.²⁰ In addition, the creation of government programs that stimulated private education through financing (Student Financing Program) or scholarships (Programa Universidade para Todos) secured places in private HEIs.²⁰

Our findings indicate that most nutrition programs were offered by private HEIs in the country, which corroborates the results of Veloso et al.,²¹ who found similar numbers of HEIs in the private sector. However, the same authors indicate that universities represented 49.6% of the institutions, which is different from our research, in which there was a higher frequency of colleges (41.75%), followed by universities (34.91%).

This change in the predominance of educational institutions can be explained by the expansion of nutrition programs, mainly in private HEIs,¹⁸ as new institutions were initially accredited by the MEC as colleges. According to the prerogative of autonomy and if the institutions displayed regular functioning and satisfactory quality standards, they could be accredited as a university center or university.⁷

Regarding the program modality, a predominance of in-person classes was found in the researched institutions. This is in line with data released by the Brazilian census of higher education:²² in 2017, most higher education programs were bachelors with in-person courses, as it was the case for the undergraduate nutrition programs.

Considering ENADE scores, most programs obtained scores 3 or 4 in the exam applied in 2016. Only 4.64% obtained the maximum score, 5. As the previously discussed expansion of new programs (in the process of adapting curricula, PPP, facilities, and faculty), this data can be justified since few HEIs had the maximum score in the evaluation. ENADE evaluates the performance of students, both in the freshman and senior years, regarding skills, knowledge, curriculum content, and training in general, so that the MEC can classify undergraduate programs as to their quality.¹⁵

Regarding the minimum number of hours, our results indicated that most HEIs complied with the minimum established by the National Education Board – Chamber of Higher Education, which is 3,200 hours;²³ only 3 HEIs did not reach this objective. Since 2004, the CFN has

advocated a minimum of 4,000 hours for undergraduate nutrition programs in order to enable content expansion and program improvement, thus increasing the quality of nutritionist training.^{24,25}

In this perspective, Medeiros et al.²⁶ analyzed official documents on the minimum workload of nutrition programs and found that, in comparison with other health care programs, nutrition had had the smallest program expansion until the investigated period. The authors suggested that the establishment of 4,000 hours would better qualify the training, in addition to providing interdisciplinary experiences to students.

The data collected in our research indicate that in 2018, at least 63.98% of the Brazilian HEIs with undergraduate nutrition programs offered courses on older adults or aging. However, the same course presented content on other age groups. The courses were also more frequently theoretical instead of theoretical-practical.

Similar findings were described in research performed by Lima et al.²⁷ in the state of Rio Grande do Norte, Brazil. The researchers investigated the insertion of the theme of aging by reading the pedagogical projects of programs of professionals from the Family Health Strategy and the Family Health Support Center (medicine, nutrition, nursing, dentistry, social work, among others). The authors categorized their findings as “secondary aging,” in which aging and the health of older adults were addressed along with other life cycles (child health, adolescent and adult health, or gestation to aging), sharing content, and discussing the theme of older adults for a few class hours.

Another finding of our study, similar to that found by Lima et al.,²⁷ was the fact that classes were more theoretical (53% in our study). The authors still report courses with content reduced to the biological and physiological aspects of aging, offered as elective curricular components. Conversely, in our study, a higher frequency of mandatory courses was found. This difference may be justified since the authors have investigated several programs in the health care domain apart from nutrition, which would differentiate the curricular contents.

Benetti et al.²⁸ discussed that investments in academic training are necessary, such as the provision of courses focused on the health of older adults. Less than half of the nutritionists interviewed in 18 long-term institutions in the city of Passo Fundo (state of Rio Grande do Sul, Brazil) reported they had the opportunity to take a course related to gerontology during their undergraduate education.

In 2017, the CFN performed a survey with the profile of nutritionists in Brazil, regarding their main areas of practice: the predominant areas of collective nutrition

(30.8%) and clinical nutrition (30.4%) were found. The survey also showed an increase in teaching, which was present in 11.4% of the activities, following the increasing number of educational institutions offering nutrition programs in the country.¹¹

According to a study performed by De Negri et al.¹⁹ with students starting the nutrition program in the city of Porto Alegre (state of Rio Grande do Sul, Brazil), clinical nutrition (82%) was the most desired area of professional activity, for practice in hospitals, clinics, and offices. Out of the interviewees, 12.59% responded they preferred to work with older adults in geriatric homes after completing the program.

Regarding the year when the current curriculum structure started, the highest frequency was observed between 2010 and 2018. A possible explanation for this finding is the increase in the number of new institutions in the last decade.¹⁸ Consequently, these new programs, with their newly structured curriculum, could include courses on older adults since this theme is increasingly being addressed by the academic environment, media, and society in general.

Considering the semester at which the courses on older adults were offered, most were offered in the middle of the program, between the fifth and the eighth semesters. Therefore, since undergraduate nutrition programs structure their curricula in the logic of life cycles,²⁷ aging is addressed in the more advanced semesters of the program.

Regarding internships, our results indicated that a lower frequency of programs provided this activity in areas related to older adults. In a survey conducted with nutritionists, the interviewees reported little experience in practice with the older adult population during their curricular internships.²⁸

In this sense, previous findings¹⁶ indicate as limitations in the training of nutritionists the lack of internships as professional practice activities, the insufficiency of diverse content, and the lack of content related to clinical nutrition considering the health of older adults. In another study based on testimonials from coordinators and students of nutrition programs in the city of São Paulo (state of São Paulo, Brazil), internships were emphasized as a fundamental moment of development for the construction of one's professional identity.²⁹

Nevertheless, some topics should be discussed, such as the places/units where the internships and their organization took place, supervisor responsibilities, and the learning by students.²⁹ Carneiro et al.³⁰ discuss that curriculum revisions are difficult processes to be performed within institutions, involving several changes in program (re)organization.

Considering the proportion of undergraduate nutrition programs with courses involving older adults compared to the absolute number of older adults in each Brazilian region, the highest proportions were found in the North and Central-West regions, respectively. This may be due to the fact that these regions have a smaller population aged ≥ 60 years when compared other regions, as indicated in the continuous National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios [PNAD]).¹⁷

This study is the first report of courses involving older adults in undergraduate nutrition programs in Brazil. The main limitation of this study was the access to information, which was obtained from the HEI websites. In some cases, the information was not available or was incomplete, and inconsistencies were found between data available at the e-MEC and that in the curriculum structure made available by the programs.

Some programs presented courses that mentioned the "life cycle" approach, without mentioning whether the older adults subject (or similar terms such as aging, geriatrics, gerontology, and gerontological) were included or not.

As future perspectives, further research on the topic (both quantitative, qualitative, or mixed) is suggested, including program coordinators, professors, and students, in order to obtain direct and more complete information on the curriculum components. For example, future results could help understand how the contents and concepts about older adults and aging taught in courses and internships during the training of nutritionists contributed to their professional development.

Reflecting on the role of undergraduate programs in preparing future health care professionals is essential. The content approach involving all stages of the life cycle helps undergraduates at the end of the program have more qualified training for the care and management of people from different age groups, including older adults. Another important aspect to be highlighted is that the ideal care and management of older adults is interdisciplinary. Therefore, all health care professionals, including nutritionists, should also be trained in this approach. The same lack of training related to older adults observed in undergraduate nutrition programs is seen in other health care programs.⁹ The importance of residency and specialization programs is also significant to the care of older adults, as well as master's and doctoral programs and specialist titles in the area.

Finally, we highlight the importance of Brazilian HEIs offering courses (including internships) that address the theme of older adults in their undergraduate programs. Therefore, contents can be approached exclusively at each stage of the

life cycle, since aging is a complex phenomenon and older adults present general conditions that are diverse from a biopsychosocial point of view (ranging from active and successful aging to dependent aging, without autonomy and with multimorbidity).

CONCLUSION

In this study, approximately one-third of the studied Brazilian HEIs (36.02%) did not offer education on older adults in their undergraduate nutrition programs as courses or internships. The courses that addressed the theme of older adults or aging offered this subject together with other contents, with a theoretical approach, a semester load of 60 hours or more, and were mandatory. Only a minority of the institutions offered internships in this area. Further studies are suggested to expand this reflection and

contribute to a more qualified training of nutritionists for the care of older adults.

Conflicts of interest

The authors declare no conflicts of interest.

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Authors' contribution

RBM: conceptualization, data acquisition, methodology, writing – original draft, writing – review & editing. CDS: methodology, writing – review & editing. CHAS: conceptualization, data curation, methodology, supervision, writing – review & editing.

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