


# Food and nutrition security approach in Brazilian federal universities' curricula: core aspects


## Abordagem de segurança alimentar nutricional nos currículos das universidades federais brasileiras: principais enfoques

Célia M. Patriarca Lisbôa<sup>a</sup>

 <https://orcid.org/0000-0001-9618-1093>

E-mail: celiapatriarca@gmail.com

Alexandre Brasil Fonseca<sup>b</sup>

 <https://orcid.org/0000-0002-7495-4902>

E-mail: abrasil@ufrj.br

<sup>a</sup>Universidade Federal do Rio de Janeiro. Curso de Nutrição. Macaé, RJ, Brasil.

<sup>b</sup>Universidade Federal do Rio de Janeiro. Centro de Ciências da Saúde. Instituto Nutes de Educação em Ciências e Saúde. Rio de Janeiro, RJ, Brasil.

### Abstract

Nutritionists are key for individual and collective health promotion focused on achieving Food and Nutrition Security (FNS) policies, which in Brazil focuses on the human right to adequate food (HRAF) and includes guidelines for itself, for food sovereignty, and its systemic approach. The nutritionist's training must include content that promotes adequate and healthy food, following SUS principles from the perspective of FNS. This study analyzes 27 pedagogical projects of the Nutrition course from federal universities in the five regions of Brazil to identify how the FNS appears in Nutrition curricula and functions as an element for constructing a professional profile. The results showed that, although most curricula comply with the national curriculum guidelines regarding the expected profile for graduates, the subject is addressed by a restricted number of disciplines, indicating a low representativeness of FNS content regarding interdisciplinary content. Strengthening the subject during training thus reflects on these professionals' performance in daily life.

**Keywords:** Food and Nutrition Security; Nutritionist Training; Curriculum.

### Correspondence

Célia M. Patriarca Lisbôa

Universidade Federal do Rio de Janeiro, Centro de Ciências da Saúde, Instituto Nutes de Educação em Ciências e Saúde.

Av. Carlos Chagas Filho, 373, bloco A, sala 33 (subsolo).

Rio de Janeiro, RJ, Brasil. CEP 219410-902.

## Resumo

O nutricionista é um profissional importante para a promoção da saúde individual e coletiva, tendo em vista a realização da segurança alimentar e nutricional (SAN), que focaliza o direito humano à alimentação adequada (DHAA) e se constitui estratégia de ações e políticas que pautam o próprio DHAA, a soberania alimentar e o enfoque sistêmico. Nesse sentido, a formação do nutricionista deve incluir conteúdos que subsidiem a sua tarefa de promoção da alimentação adequada e saudável, comprometida com os princípios do Sistema Único de Saúde, na perspectiva da SAN. Este estudo analisou 27 projetos pedagógicos do curso de nutrição de universidades federais das cinco regiões do país, visando identificar como a SAN aparece nos currículos e se constitui elemento para a construção do perfil profissional. A análise evidenciou que, apesar de a maioria estar em consonância com as orientações das Diretrizes Curriculares Nacionais em relação ao perfil esperado para o egresso, o tema é abordado por um número restrito de disciplinas, apontando baixa representatividade dos conteúdos de SAN em relação a outros conteúdos disciplinares. Conclui-se que o fortalecimento do tema na formação refletirá na atuação do profissional engajado e comprometido com a sua realização no cotidiano. **Palavras chave:** Segurança Alimentar e Nutricional; Formação do Nutricionista; Currículo.

## Introduction

In Brazil, access to adequate and healthy food is a right guaranteed by the Constitution, after Constitutional Amendment no. 64 of February 4, 2010 (BRASIL, 1988), and constitutes the focus of food and nutrition security (FNS), which aims to

realize the right of all to regular and permanent access to quality food, in sufficient quantity, without compromising access to other essential needs, based on health-promoting eating habits that respect cultural diversity and are socially, economically and environmentally sustainable. (Brasil, 2006a)

Brazil's focus on FNS concerns actions and public policies as strategies that articulate the principles of the human right to adequate food (HRAF), food sovereignty and systemic and intersectoral aspects (Burlandy, 2009; Leão, 2013; Maluf; Reis, 2013).

FNS presents issues regarding food and its relation with human beings and health, such as combating hunger and consuming unsafe foods. Due to their familiarity with topics concerning food and their qualification to intervene in food and nutrition aspects, nutritionists are key for promoting individual and collective health, focusing on achieving FNS policies (Leão, 2013).

Consequently, in their performance, nutritionists must consider different aspects of the food phenomenon, contemplating comprehensive vision of the individual. In a country markedly affected by socioeconomic inequalities, it is essential that the training of this professional includes contents from the social sciences, serving to support professionals in promoting adequate and healthy food (Fonseca; Frozi, 2019).

In accordance with the National Curriculum Guidelines (DCN) of the Nutrition course, nutritionists must be able to work towards FNS and dietary care (Brasil, 2001). Hence, nutrition courses throughout Brazil have been constructing proposals for curricular restructuring, complying with the policy recommendations for reforming higher education.

These courses are based on normative references, such as the National Educational Bases and Guidelines Law (LDB) (Brasil, 1996) and the DCN (Brasil, 2001), and consider the redirection of education and health policies to rethink the nutritionist's training, so they can meet the new social demands.

Pedagogical project (PP) is understood as an instrument of academic guidance that reflects the educational proposal of the educational institution, defining its identity, guidelines, goals and methods. The PP reveals specific bases and assumptions, which involve socio-political priorities and contribute to constructing a professional profile that meets a certain worldview (Mainardes, 2006; Mainardes; Ferreira; Tello, 2011).

This academic guidance document includes, among other elements: knowledge and expertise considered necessary for developing the competencies established from the graduate's profile; curriculum structure and content; syllabuses; basic and complementary bibliographies; teaching strategies; professors; material resources; administrative services; laboratory services; and infrastructure to support the full functioning of the course. (Brasil, 2006b)

Regarding health, the guidelines of the legal devices point to a professional adaptation to the requirements of the Brazilian National Health System (SUS) (Brasil, 2001), requiring training that enables them to exercise certain general competencies and abilities, including:

Health professionals, within their professional scope, must be able to develop actions for the prevention, promotion, protection and rehabilitation of health, both at the individual and collective level. Each professional must ensure their practice is carried out integrated and continuous with the other instances of the health system, being able to think critically, to analyze society's problems and to solve them. (Brasil, 2001)

It includes that the Federal Council of Nutritionists (CFN, 2013) advises that professionals be prepared to act in accordance with public health policies and their multiple interfaces with food and nutrition, as well as with the SUS principles, seeking to guarantee the HRAF to achieve the FNS, regardless of the area in which they operate.

Also, the Consensus on the Skills and Competencies of Nutritionists in the Field of Collective Health (Recine; Mortoza, 2013) is a document that serves as a guideline to characterize knowledge, skills and attitudes necessary to strengthen professional practice in the field of collective health nutrition. It indicates that the principles and foundations of FNS, food sovereignty and HRAF must be incorporated into nutrition in public health, constituting one of the thematic axes of the field.

In addition, the Matrix of Food and Nutrition Actions in Primary Health Care (Maanabs) (Brasil, 2009) guidelines indicate actions to be incorporated by nutritionists, aiming to promote a cross-sectional approach to nutritional issues, seeking to positively impact nutrition, health and FNS indicators.

In this perspective, the quality of the training process is key to provide the skills and competencies needed by the professional, given the different dimensions required to work in food and nutrition.

This article integrates a doctoral research and aims to analyze 27 pedagogical projects of the nutrition course (PPC) from federal universities in the five regions of the country, aiming to reveal how FNS appears in nutrition curricula and constitute an element for constructing the professional profile. We consider that valuing a certain approach can influence training, emphasizing different skills and abilities (Cervato-Mancuso; Coelho; Vieira, 2016).

## Methods

The initial scope of this research includes the Brazilian federal institutions of higher education (IFES), duly registered and active in the Ministry of Education,<sup>1</sup> that offer undergraduate course in

1 Disponível em: <<http://emec.mec.gov.br/>>. Acesso em: 5 jun. 2020.

nutrition. Here, they will be identified as federal universities. Fifty-seven universities were found, of which only 29 were initially selected for PPC analysis. Inclusion criterion was the online availability of the PPC on the educational institution's website.

In the documental analysis process, PPCs from Universidade Federal de Viçosa (UFV), Rio Paranaíba campus and Universidade Federal Fluminense (UFF) were excluded. These IFES do not provide the curriculum syllabuses, offering only a list identifying the disciplines, hindering a more reliable analyze for the purposes of this research. Thus, considering that UFV-Paranaíba has the same curricular structure as the headquarters, we chose to analyze only UFV's PCC, considering that it would provide sufficient

data to understand the professional profile idealized by this institution. Regarding UFF, the attempt to contact the coordination of the nutrition course was unsuccessful.

We effectively analyzed the PPCs of 27 federal universities selected from the five regions of Brazil, of which 15 are the result of the university expansion and internalization process (Chart 1). The analysis allowed identifying how the FNS behaves in the Brazilian IFES' nutrition courses curriculum, the main disciplines addressing it, as well as the FNS approaches they favor. We considered the total number of subjects offered in the curriculum of nutrition courses, including electives and excluding internships.

**Chart 1 – Distribution of pedagogical projects of the nutrition course in federal institutions of higher education in Brazil by region, city, expansion/internalization, year**

REGION OF BRAZIL	CITY/STATE	Exp/inter.	IFES	PPC YEAR
NORTH	1. Palmas/TO	X	Universidade Federal do Tocantins (UFT), Palmas campus	2009
NORTHEAST	1. Lagarto/SE	X	Universidade Federal de Sergipe (UFS), University Campus Professor Antônio Garcia Filho – Lagarto	2015
	2. Teresina/PI		Federal University of Piauí (UFPI)	2012
	3. Cruz das Almas/BA	X	Universidade Federal do Recôncavo da Bahia (UFRB)	2007
	4. Santa Cruz/RN	X	Universidade Federal do Rio Grande do Norte (UFRN), Trairi campus	2012
	5. Maceió/AL		Universidade Federal de Alagoas (Ufal)	2017
	6. Victory of Santo Antão/PE	X	Universidade Federal de Pernambuco (UFPE), Vitória campus	2012
	7. São Luiz/MA		Universidade Federal do Maranhão (UFMA)	2007
MIDWEST	1. Dourados/MS	X	Universidade Federal da Grande Dourados (UFDG)	2015
	2. Goiânia/GO		Universidade Federal de Goiás (UFG)	2013
	3. Cuiabá/MT		Universidade Federal de Mato Grosso (UFMT)	2010
	4. Brasília/DF		Universidade de Brasília (UnB)	2017

continued...

**Chart 1 – Continuation**

REGION OF BRAZIL	CITY/STATE	Exp/ inter.	IFES	PPC YEAR
SOUTHEAST	1. Rio de Janeiro/RJ		Universidade Federal do Estado do Rio de Janeiro (Unirio)	2009
	2. Niterói/RJ		Universidade Federal Fluminense (UFF)	2014
	3. Macaé/RJ	X	Universidade Federal do Rio de Janeiro (UFRJ), Macaé campus – Professor Aloísio Teixeira	2013
	4. Diamantina/MG		Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM)	2007
	5. Governador Valadares/MG	X	Universidade Federal de Juiz de Fora (UFJF), Governador Valadares campus	2015
	6. Uberaba/MG	X	Universidade Federal do Triângulo Mineiro (UFTM)	2014
	7. Viçosa/MG		Universidade Federal de Viçosa (UFV)	2013
	8. Rio Paranaíba/MG	X	Universidade Federal de Viçosa (UFV), Rio Paranaíba campus	2013
	9. Uberlândia/MG	X	Universidade Federal de Uberlândia (UFU)	2011
	10. Santos/SP	X	Universidade Federal de São Paulo (Unifesp), Baixada Santista campus	2016
	11. Vitória/ES		Universidade Federal do Espírito Santo (Ufes)	2013
SOUTH	1. Chapecó/SC	X	Universidade Federal da Fronteira Sul (UFFS)	2010
	2. Florianópolis/SC		Universidade Federal de Santa Catarina (UFSC)	2009
	3. Itaqui/RS	X	Universidade Federal do Pampa (Unipampa), Itaqui campus	2012
	4. Porto Alegre/RS		Fundação Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSA)	2015
	5. Porto Alegre/RS		Universidade Federal do Rio Grande do Sul (UFRGS)	2018
	6. Pelotas/RS	X	Universidade Federal de Pelotas (Ufpel)	2015

Exp: expansion; inter: internalization.

The study was based on the aspects of FNS presented by the Organic Law of Food and Nutrition Security (Losan) (Brasil, 2006a): accessibility to the modes of production and distribution and the promotion of healthy eating, considering socially vulnerable groups and populations; sustainability, with public policies and sustainable strategies; in addition to ensuring the biological, sanitary, nutritional and technological quality of food.

For the research, we built an analytical framework considering: course objectives, professional

profile and curricular structure, focusing on the disciplines present in the printed material directly or indirectly related to FNS. We adopted as criteria for determining a direct relationship with FNS: use of the expressions “food security” or “food and nutritional security” in describing the professional profile, based on DCN; presence of the expression “food security” or “food and nutritional security” in the disciplines syllabuses, basic and complementary bibliography; content related to FNS public policies.

For analysis purposes, we considered “food safety” as meaning safe, innocuous food, without

sanitary risks, as commonly indicated by research that focuses on this aspect of food (Anjos; Burlandy, 2010). FNS concerns a broader process, which considers food in its production conditions, its nutritional quality and the cultural and socioeconomic factors involving eating (Brasil, 2006a). Distinguishing these terminologies helps to differentiate the approaches assumed in the analyzed curricula.

Regarding disciplines related indirectly to FNS, we adopted as criteria: presence of aspects related to FNS in the course objectives, curricular structure, syllabuses, basic and complementary bibliography—such as human right to adequate food, food culture, agroecology, food production systems, indicators of nutritional status, food and nutritional surveillance, microbiological security, labeling, pesticides, transgenics and others.

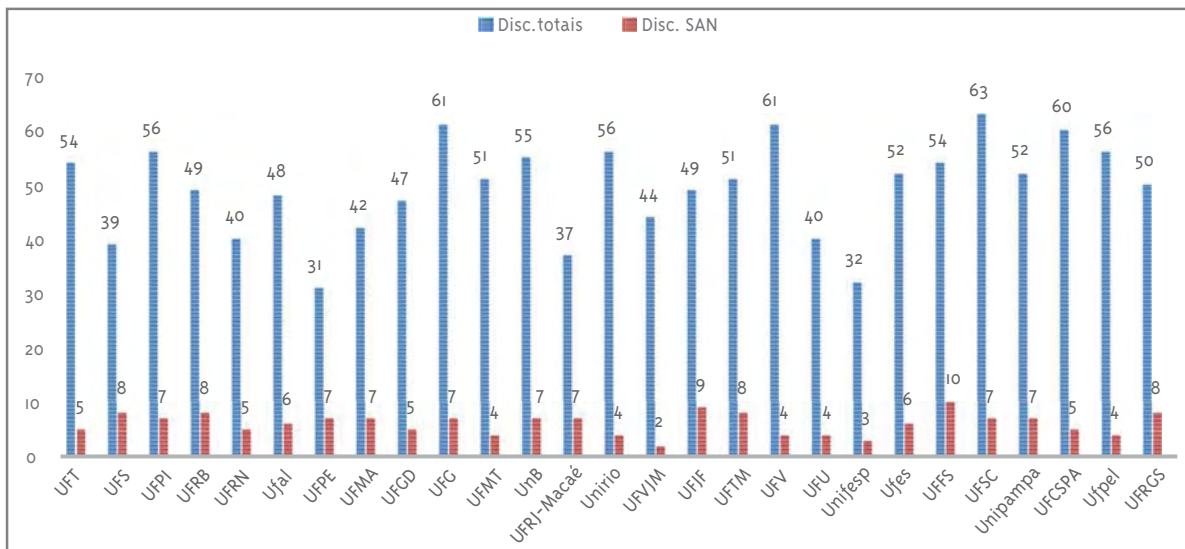
## Results

We analyzed a total of 1,322 syllabuses, of which 164 fall under one or more criteria established with respect to FNS (12.4%): 58 present a direct relation (4.38%) and 106 an indirect relation (8.01%) (Graph 1).

Regarding Graph 1, it is evident that all 27 universities highlight FNS as a constituent subject in at least one course discipline. Most of the disciplines that address the FNS reach around 10% to 12% of the total disciplines available, pointing to the low representativeness of the contents of this subject compared with other disciplinary contents.

Additionally, the FNS usually appears in disciplines in the field of social nutrition, such as: Public Health Nutrition, Collective Health Nutrition, Food and Nutrition Public Policies, Nutritional Epidemiology, Food, Nutrition and Society.

**Graph 1 – Distribution of total disciplines and disciplines with food and nutrition security content of the federal institutions of higher education studied**



Disc: disciplines; FNS: food and nutrition security; IFES: federal institutions of higher education.

Often the emphasis is on the human right to adequate food (27 IFES), in its different aspects (cultural, social, food consumption, promotion of healthy eating). Also noteworthy is the focus on FNS public policies (26 IFES), which concern the main aspects pointed out by Losan (Brasil, 2006a).

Disciplines in the area of food safety, such as Microbiology, Food Hygiene and Legislation, Food Quality Control, Food Toxicology, Food And Nutrition Services Administration, are present in the PPC of 11 universities (UFS, UFPI, Ufal, UFMA, UFMT, UnB, Ufes, Unirio, UFCSPA, UFFS, Unipampa-Itaqui). These disciplines (n=16) emphasize the aspects of

hygiene and safety, from the perspective of safe and risk-free food.

Regarding intersectoriality, three courses (UFRB, UFSC, UFRJ-Macaé) highlight its aspects, seeking to articulate different actors beyond the walls of the university, towards health promotion.

Concerning the FNS policy, we found records in three courses (UFSC, UFJF, UFMT) that explicitly evidence their integration with SUS and the

National Food and Nutritional Security System, focusing on health promotion, protection and recovery of the dimensions involved in the health-disease process, as well as those related to the interrelation between food production, supply, marketing and consumption.

The analysis also showed the existence of disciplines where FNS is the main subject in seven IFES (UFT, UFRB, UFTM, UFV, UFFS, UFSC, UFRGS) (Table 2).

**Table 2 – Disciplines with emphasis on food and nutrition security, according to region and federal institution of higher education**

REGION	IFES	SAN DISCIPLINE
NORTH	UFT	Food and Nutritional Security
NORTHEAST	UFRB	Food and Nutrition Security Public Policies
MIDWEST	-----	-----
SOUTHEAST	UFTM	Food and Nutritional Security
	UFV	Sustainable Food and Nutrition Security (elective)
SOUTH	UFFS	Food Security and Nutrition Surveillance
	UFSC	Introduction to Food and Nutrition Security
	UFRGS	Food security 1 Food security 2

SAN: food and nutrition security; IFES: federal institutions of higher education.

Our analysis identified only two records addressing transgenic foods. The first concerns a topic in the discipline Food Toxicology, at UFMT. The second appears in the bibliography of the discipline Food Safety Surveillance, at UFSC.

We highlight the emergence of biological disciplines in three universities (UFT, UFS, Unifesp), focusing on nutritional adequacy in different stages of life, such as child and adolescent nutrition and adult and old adult nutrition. These disciplines point to food and nutrition insecurity, characterized by regular disregard for HRAF, individuals or communities.

## Discussion

We identified that all PPCs analyzed comply with the DCN guidelines regarding the expected profile for graduates, whether in the presentation of the

objectives, in the composition of the disciplines or in the body of the text. It is worth noting that the DCN (Brasil, 2001) are guiding legal documents for constructing the curricula of nutrition courses throughout the country and outline a professional profile focused on training committed with FNS, being the first time that FNS stands out in the curricular orientation of nutrition, contributing to new possibilities for building professional identity.

This fact reflects the articulation of the disciplinary community of nutritionists, pressure groups and social movements in the late 1990s against the weakening of the FNS on the national public agenda. The efforts led to the formulation of the National Food and Nutrition Policy (PNAN) (Brasil, 2007, 2013), which aims to promote HRAF and tackle food and nutrition insecurity in the Brazilian population. The inclusion of FNS when drafting the normative text of the DCN strengthened the identity



of the professional committed to the social demands involving the food phenomenon (Alves; Jaime, 2014).

However, the limited number of disciplines that interface with the FNS approach, directly or indirectly (12.4%), shows its low representativeness compared with other disciplinary contents, hindering understanding and reflection on the determinants of nutritional problems and the importance of promoting the human right to adequate and healthy food. One can infer that Brazilian federal universities still favor the biological aspect of the food phenomenon, which may reflect the interests, conflicts and alliances present in the scope of the courses. Here, we consider the context of text production, in which constructing the PPC takes place, an arena of disputes, power, cultures, identities that resonate in the text reread, reconstructed and recreated in the context of the university (Mainardes, 2006; Mainardes et al., 2011).

Another possible explanation is on the nutritionist's small participation in discussion forums on topics of interest to the category and society as a whole (CFN, 2006), reflecting the devaluation of the social sciences in the curriculum and the low social recognition of the profession in issues alluding to their training field (Bosi, 1996; Elias, 2009; Fonseca; Frozi, 2019).

Bosi (1996) explains the discredit of the social aspect in the professional nutritionist's training and practice from the historical contexts of the profession's emergence and development. According to the author, in the 1940s, the issue of hunger was an important subject of interest and reflection, addressed from the concept of social determination, and had dietitians, such as Josué de Castro, as main representatives. However, from the military coup of 1964, curative medical care has been privileged and the clinical-laboratory aspect took central place in discussing and producing knowledge about food and nutrition. Despite the critical proposal of social medicine in the 1970s, committed to social transformation, nutritionists were responsible only for implementing food programs, without due participation in discussing objectives and planning interventions, being gradually excluded from the debate.

The predominance of the FNS approach in the disciplines in the field of social nutrition and public policies corroborates Maanabs (Brasil, 2009) and the results found in the researches by Bosi and Prado (2011), Recine et al. (2012), Recine and Mortoza (2013), which indicate FNS as one of the axes and actions that form the field of collective health, especially within the scope of public policies. However, the research by Guerra, Cervato-Mancuso and Bezerra (2019), which analyzed studies on FNS in different countries, states that the link between FNS and public health needs to be strengthened, especially by an approach that allows understanding food as a human right, intimately interwoven with other fundamental social rights, such as health, housing, education.

The field of social nutrition has traditionally been a privileged place for professional practice with emphasis on the principles and foundations of FNS, food sovereignty and HRAF (Recine; Mortoza, 2013), although the legal provisions guiding professional practice presuppose a generalist and critical action, seeking to guarantee the HRAF and promote FNS in all areas of professional activity (Brasil, 2001; CFN, 2013, 2018).

It is noteworthy that the disputes occurring in debates and actions involving the FNS, count on the active participation of nutritionists and teachers in the field of collective health and public policies (Alves; Jaime, 2014). The nutritional focus of the FNS reflects the contribution of actors related to the field of nutrition in public health, in its process of debate and construction.

The results may also indicate the urgency of training aimed at professional qualification regarding public policies, to intervene in the aspects of food and nutrition of public health policies, as well as participate in decentralized management bodies from different spheres and in social control actions (National Food Safety Council, Health Councils and others), given the expansion of the scope of professional practice in that field (CFN, 2013; Recine et al., 2012).

In agreement with Cervato-Mancuso, Coelho and Vieira's (2016) research, the HRAF appears as the focus of FNS on the investigated universities. The subject gains prominence from the campaigns



to combat hunger and poverty in the 1990s and expands to address issues related to the nutritional and health quality of food. In this sense, according to international human rights treaties, the HRAF has two indivisible dimensions. The first concerns the right to be free from hunger and malnutrition; the second, the right to adequate food, which involves aspects related to nutritional balance, sanitary quality, respect and appreciation of national and regional food culture, access to foods free of contaminants, pesticides and genetically modified organisms, among others (Leão, 2013).

It is worth noting that the HRAF integrates the basic universal rights of humanity, which are interdependent and interrelated. Thus, when a right is violated, others are as well. In this sense, the HRAF must be guaranteed to any citizen and relates to a set of necessary and essential conditions so all human beings may develop their capacities, participating with dignity and equally in social life, such as: access to health, water, housing, education, work, leisure and others (Guerra; Cervato-Mancuso; Bezerra, 2019; Menezes; Burlandy; Maluf, 2004). A curriculum focusing on HRAF opens the possibility for a professional training more committed to changes, towards the development of a fairer and more egalitarian society.

The disciplines in the field of food safety focus on the health aspect, from the perspective of safe and risk-free food. Anjos and Burlandy (2010) state that, in addition to the aspects of food safety, FNS in Brazil mainly focuses on nutritional quality and aspects of production, considering the social, environmental and economic risks related to the process.

Jaime et al. (2018) add that an expanded concept of health risk in food must include the dimensions related to controlling the nutritional quality of industrialized foods, advertising and labeling policies, so closely intertwined with strategies for controlling overweight and obesity and raising awareness about healthy eating.

The emergence of biological disciplines that address FNS, from the perspective of food insecurity, shows a small advance, since they interconnect biological and social knowledge, so

necessary for achieving the integrality dimension of the SUS.

The nutritionist's performance in the SUS includes food and nutrition care aimed at health promotion and protection, as well as preventing diseases and health problems, in a humanized care to individuals, families and communities. Affecting about 45% of the population (Brasil, 2018), chronic non-communicable diseases (diabetes, hypertension, obesity) are among the main challenges related to food, requiring actions to promote healthy eating habits.

Additionally, we find food systems, including the production, distribution and access processes, considering that the conformation of today's society is marked by the industrialization process, technological development and advertising, which strongly influences food consumption and stimulates new eating habits, significantly changing the society's way of life.

Thus, ensuring the FNS implies implementing a set of integrated and complementary social public policies, which, in addition to the health sector, includes social protection; food control and regulation; fostering family-based agricultural production, valuing the sociocultural dimensions of food and a fair and sustainable food system (Jaime et al., 2018).

Discussion about transgenics appears little in the curriculum. The subject is of paramount importance and is under debate today, being the subject of controversy on biosafety, especially regarding the effects of its consumption on human health and biodiversity. Its current relevance is often present in discussions around the labeling of foods that contain or are produced from transgenics. Especially by the approval of Bill (PL) no. 4,148, of 2008 (currently, House Bill no. 34, 2015), on April 28, 2015, in the House of Representatives, still pending in the Senate.

Said bill amends Law no. 11,105 of March 24, 2005, ending the requirement for the transgenic symbol on the labels of products with genetically modified organisms, such as soybean oil, cornmeal and other derivatives, denying the consumers' right to information on the food they eat. With the changes, the law provides that only products

containing more than 1% of GMOs in their final composition will be labeled, opening loopholes so that foods made with 100% transgenic raw material not to be labeled.

Intersectoral actions for health promotion is a Brazilian interpretation of the notion of FNS, which distinguishes it from other countries and international organizations. This focus consists in implementing actions and programs from various sectors (health, education, agriculture, economy and others), integrated in the effort of ensuring the HRAF, to work in the scope of food production, marketing, access and consumption (Burlandy, 2009).

According to Vieira, Utikava and Cervato-Mancuso (2013), as a result of the implementation and evolution of policies regarding food and nutrition closely intertwined with the FNS, nutritionists' activity has been expanded, encompassing management, education, primary care, school meals, among others.

The emergence of disciplines that focus on FNS as the main subject points to an advance in relation to the research finds of Recine et al. (2012), who analyzed nutrition courses from public and private universities, not identifying any discipline that explicitly dealt with FNS. This suggested an appreciation of FNS as an area of knowledge and action, standing out in the scope of professional training.

FNS is a concept transverse to various fields of knowledge and permeates the socioeconomic, biological, environmental and cultural spheres. In addition, the DCN present the promotion of FNS as one of the nutritionist's main attributions. The scant articulation of the approach between curricular disciplines indicates an important gap, which will affect training and professional profile.

Valuing transdisciplinarity helps to understand and appropriate the different dimensions of the FNS in professional practice, especially when we consider the food transition characteristics, in which the Brazilian dietary pattern, based on the consumption of cereals, beans, roots and tubers, was replaced by a diet rich in chemical ingredients, fats, sugars and sodium, leading to a concomitant

picture of obesity and malnutrition (Batista Filho; Rissin, 2003; Monteiro et al., 2000).

## Final considerations

The Brazilian concept of FNS focuses on HRAF in its different dimensions, food sovereignty and systemic approach, with an appreciation of intersectoriality.

Regarding education, the public university is considered a privileged and democratic space of joint construction of knowledge, contributing to training a professional more integrated and engaged with social demands. In this sense, the educational institution shares much more than contents, but a way of seeing the world, shifting the curriculum to the relationships established around the educational act, in everyday life, committed with emancipating the human being.

For the purposes of this research, the curriculum is not considered as neutral, but built from the academic community's conceptions about FNS and the nutritionist's role in society. How the university perceives the concept of FNS will influence the actions and choices of the curriculum and its view of the graduate's professional profile.

The analysis of the PPC showed that the structuring of the disciplines does not always reflect the contents and articulations necessary to achieve the DCN guidelines of the nutrition course. For implementing FNS in its most diverse aspects, therefore, undergraduate courses in nutrition must adapt its curriculum, allowing for transdisciplinarity and extension projects developed within the course for training critical and responsible citizens, committed to guaranteeing the HRAF in its different aspects.

As a limitation of this research, we point out that the PPC analysis does not show the reality of curricular practices within federal universities, because the prescribed or formal curriculum hardly accompanies the evolution of the real curriculum, which takes place in the classroom. Considering that pedagogical practice

presupposes a certain autonomy and conception about knowledge, investigations that give visibility to the local reality are in order.

Professional practice must be committed to the recognition of food as an inalienable right, ranging from issues related to food production and availability to serve society; combating hunger; to issues on consumption and food choices closely linked to the political and economic aspects guiding the market. Thus, strengthening FNS during training is key for critical and responsible professional performance in this area.

## References

- ALVES, K. P. S.; JAIME, P. C. A Política Nacional de Alimentação e Nutrição e seu diálogo com a Política Nacional de Segurança Alimentar e Nutricional. *Ciências e Saúde Coletiva*, Rio de Janeiro, v. 19, n. 11, p. 4331-4340, 2014.
- ANJOS, L. A.; BURLANDY, L. Construção do conhecimento e formulação de políticas públicas no Brasil na área de segurança alimentar. *Ciência e Saúde Coletiva*, Rio de Janeiro, v. 15, n. 1, p. 19-30, 2010.
- BATISTA FILHO, M.; RISSIN, A. A transição nutricional no Brasil: tendências regionais e temporais. *Cadernos de Saúde Pública*, Rio de Janeiro, v. 19, p. 181-191, 2003. Suplemento 1.
- BOSI, M. L. M. *Profissionalização e conhecimento: a nutrição em questão*. São Paulo: Hucitec, 1996.
- BOSI, M. L. M.; PRADO, S. D. Alimentação e nutrição em saúde coletiva: constituição, contornos e estatuto científico. *Ciência e Saúde Coletiva*, Rio de Janeiro, v. 16, n. 1, p. 7-17, 2011.
- BRASIL. Constituição da República Federativa do Brasil de 1988. *Diário Oficial da União*, Poder Legislativo, Brasília, DF, 5 out. 1988. Seção 1, p. 1.
- BRASIL. Lei nº 9.394, de 20 de dezembro de 1996. Estabelece as diretrizes e bases da educação nacional. *Diário Oficial da União*, Poder Legislativo, Brasília, DF, 23 dez. 1996. p. 27833.
- BRASIL. Conselho Nacional de Educação. Câmara de Educação Superior. Resolução CNE/CES nº 5, de 7 de novembro de 2001. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Nutrição. *Diário Oficial da União*, Brasília, DF, 9 nov. 2001. Seção 1, p. 39.
- BRASIL. Lei nº 11.346, de 15 de setembro de 2006. Cria o Sistema Nacional de Segurança Alimentar e Nutricional (SISAN) com vistas em assegurar o direito humano à alimentação e dá outras providências. *Diário Oficial da União*, Poder Legislativo, Brasília, DF, 18 set. 2006a.
- BRASIL. Ministério da Educação. Comissão Nacional de Avaliação da Educação Superior. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. *Instrumento único de avaliação de cursos de graduação*. Brasília, DF, 2006b. Disponível em: <<https://bit.ly/2MAfI3v>>. Acesso em: 10 maio 2019.
- BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. *Política nacional de alimentação e nutrição*. 2. ed. rev. Brasília, DF, 2007. (Série B. Textos Básicos de Saúde).
- BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. *Matriz de ações de alimentação e nutrição na atenção básica de saúde*. Brasília, DF, 2009. (Série A. Normas e Manuais Técnicos).
- BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. *Política Nacional de Alimentação e Nutrição*. Brasília, DF, 2013.
- BRASIL. Ministério da Saúde. Vigitel Brasil 2017: *vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico: estimativas sobre frequência e distribuição sociodemográfica de fatores de risco e proteção para doenças crônicas nas capitais dos 26 estados brasileiros e no Distrito Federal em 2017*. Brasília, DF, 2018.

- BURLANDY, L. A construção da política de segurança alimentar e nutricional no Brasil: estratégias e desafios para a promoção da intersectorialidade no âmbito federal de governo. *Ciência e Saúde Coletiva*, Rio de Janeiro, v. 14, n. 3, p. 851-860, 2009.
- CERVATO-MANCUSO, A. M.; COELHO, D. E. P.; VIEIRA, V. L. Segurança alimentar e nutricional: percepções de coordenadores de cursos de nutrição. *Revista da Associação Brasileira de Nutrição*, São Paulo, ano 7, n. 2, p. 9-17, 2016.
- CFN - CONSELHO FEDERAL DE NUTRICIONISTAS. *Perfil da atuação profissional do nutricionista no Brasil*. Brasília, DF, 2006. Disponível em: <<https://bit.ly/3euLPN>>. Acesso em: 9 jan. 2019.
- CFN - CONSELHO FEDERAL DE NUTRICIONISTAS. O nutricionista e as políticas públicas. *Revista da Associação Brasileira de Nutrição*, São Paulo, ano 5, n. 1, p. 86-88, 2013.
- CFN - CONSELHO FEDERAL DE NUTRICIONISTAS. Resolução CFN nº 600, de 25 de fevereiro de 2018. Dispõe sobre a definição das áreas de atuação do nutricionista e suas atribuições, indica parâmetros numéricos mínimos de referência, por área de atuação, para a efetividade dos serviços prestados à sociedade e dá outras providências. *Diário Oficial da União*, Brasília, DF, 20 abr. 2018. Seção 1, p. 157.
- ELIAS, R. C. Análise da importância das questões socioculturais da alimentação na perspectiva dos estudantes de nutrição: implicações para a formação em saúde. 2009. Dissertação (Mestrado em Educação em Ciências e Saúde) - Núcleo de Tecnologia Educacional para a Saúde, Universidade Federal do Rio de Janeiro, Rio de Janeiro, 2009.
- FONSECA, A. B. C.; FROZI, D. S. Social and natural sciences in nutrition: studying the opinion of undergraduates from Brazil and Spain. *Revista de Alimentação e Cultura das Américas*, Brasília, DF, v. 1, n. 1, p. 28-45, 2019.
- GUERRA, L. D. S.; CERVATO-MANCUSO, A. M.; BEZERRA, A. C. D. Alimentação: um direito humano em disputa - focos temáticos para compreensão e atuação em segurança alimentar e nutricional. *Ciência e Saúde Coletiva*, Rio de Janeiro, v. 24, n. 9, p. 3369-3394, 2019.
- JAIME, P. C. et al. Um olhar sobre a agenda de alimentação e nutrição nos trinta anos do Sistema Único de Saúde. *Ciência e Saúde Coletiva*, Rio de Janeiro, v. 23, n. 6, p. 1829-1836, 2018.
- LEÃO, M. (Org.). *O direito humano à alimentação adequada e o sistema nacional de segurança alimentar e nutricional*. Brasília, DF: Abrandh, 2013.
- MAINARDES, J. Abordagem do ciclo de políticas: uma contribuição para a análise de políticas educacionais. *Educação e Sociedade*, Campinas, v. 27, n. 94, p. 47-69, 2006.
- MAINARDES, J.; FERREIRA, M. S.; TELLO, C. Análise de políticas: fundamentos e principais debates teórico-metodológicos. In: BALL, S. J.; MAINARDES, J. (Org.). *Políticas educacionais: questões e dilemas*. São Paulo: Cortez, 2011. p. 143-172.
- MALUF, R. S. J.; REIS, M. C. Conceitos e princípios de segurança alimentar e nutricional. In: ROCHA, C.; BURLANDY, L.; MAGALHÃES, R. (Org.). *Segurança alimentar e nutricional: perspectivas, aprendizados e desafios para as políticas públicas*. Rio de Janeiro: Ed. Fiocruz, 2013. p. 15-42.
- MENEZES, F.; BURLANDY, L.; MALUF, R. *Princípios e diretrizes de uma política de segurança alimentar e nutricional: textos de referência para a II Conferência Nacional de Segurança Alimentar e Nutricional*. Brasília, DF: Conselho Nacional de Segurança Alimentar e Nutricional, 2004.
- MONTEIRO, C. A. et al. Da desnutrição para a obesidade: a transição nutricional no Brasil. In:

MONTEIRO, C. A. (Org.). *Velhos e novos males da saúde no Brasil*. 2. ed. São Paulo: Hucitec, 2000. p. 247-255.

RECINE, E.; MORTOZA, A. S. *Consenso sobre habilidades e competências do nutricionista no âmbito da saúde coletiva*. Brasília, DF: Observatório de Políticas de Segurança e Nutrição, 2013.

RECINE, E. et al. A formação em saúde pública nos cursos de graduação de nutrição no Brasil. *Revista de Nutrição*, Campinas, v. 25, n. 1, p. 21-33, 2012.

VIEIRA, V. L.; UTIKAVA, N.; CERVATO-MANCUSO, A. M. Atuação profissional no âmbito da segurança alimentar e nutricional na perspectiva de coordenadores de cursos de graduação em Nutrição. *Interface*, Botucatu, v. 17, n. 44, p. 157-70, 2013.

---

### **Authors' Contribution**

Lisbôa analyzed the data, wrote and revised the article. Fonseca guided and revised the article. Both authors participated in the research design.

Received: 11/29/2019

Approved: 04/22/2020