Nutrition in Public Health Graduate Program Faculdade de Saúde Pública Universidade de São Paulo







Program Proposal and Highlights

São Paulo, August 2021



Presentation

This document presents a summary of the Report on the <u>Nutrition in Public Health Graduate Program (PPGNSP)</u> from the Faculdade de Saúde Pública of Universidade de São Paulo (FSP/USP) for the 2017–2020 quadrennial assessment by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes). The report was submitted in July 2021, via Sucupira Platform.

It contains the narrative part of the Report which is divided into two parts: the Program proposal and the Highlights of five theses, eight products, six graduates and three successful cases in the 2017-2020 cycle. The quantitative results according to the evaluation indicators proposed by the Public Health area are not presented, as the parameters for classifying production and the cut-off scores have not been released by Capes yet.

The preparation of the Report involved a collective effort to systematize and present a set of information and was received by the PPGNSP Coordination as an opportunity for internal assessment and reflection with great potential to guide the planning of the Program in the next cycle. It reflects the high degree of quality, productivity and excellence of the work done by students, professors, technicians and researchers who collaborated with the Program.

São Paulo, October 2021.

Professor Patricia Constante Jaime (Coordinator of PPGNSP – 05/2020-05/2022 cycle) and Professor Bárbara Hatzlhoffer Lourenço (Vice-coordinator of PPGNSP - 05/2020-05/2022 cycle)



Narrative components of the graduate quadrennial assessment form

Program

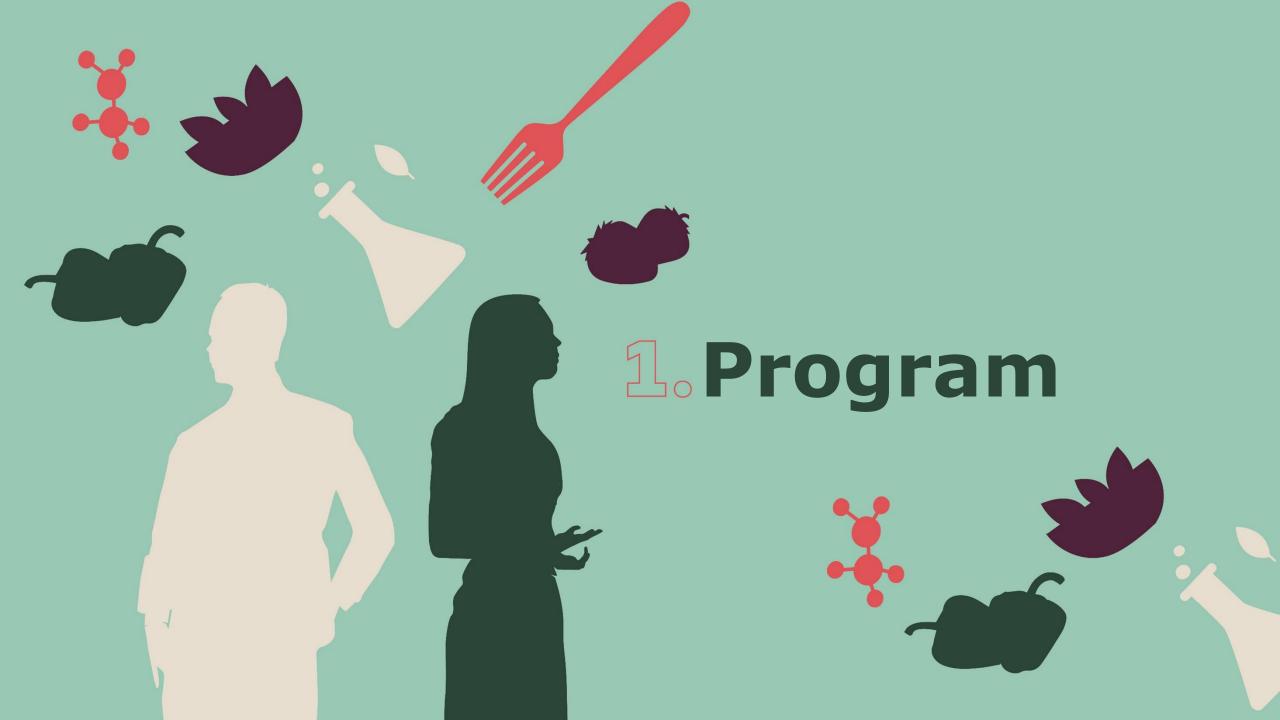
Formation

Impact on society

Program history and context

Impact of COVID-19 on Program actions





Program

1.1 Articulation, adherence and updating of concentration areas, lines of research, ongoing projects and curricular structure, as well as the available infrastructure, in relation to the objectives, mission and modality of the Program.

The PPGNSP aims to form human resources for teaching, applied research and for acting in public policies in food and nutrition.

It assumes the **mission** of producing and disseminating knowledge in the disciplinary field of Nutrition in Public Health, forming people and technically and scientifically supporting public entities and institutions and organized civil society, to contribute to the progress of science and promotion of health to the population.



Program

1.1 Articulation, adherence and updating of the concentration areas, lines of research, ongoing projects and curricular structure, as well as the available infrastructure, in relation to the objectives, mission and modality of the Program.



Start of activities in 2007



215 masters and 139 doctors have already been accredited, whereas 53 masters and 58 doctors were accredited in the 2017-2020 cycle, leading to an annual average of 13.3 masters and 14.5 doctors.



At the end of 2020, **87 graduate**students were enrolled in the Program
(20 master's and 67 doctoral
students), reaching a doctoral/master's
ratio of 3.35



The participation of postdoctoral students is also significant, with the annual average of researchers who carried out a post-doctoral internship under the supervision of PPGNSP advisors equal to 26.5 in the present four-year cycle

1.1 Articulation, adherence and updating of the concentration areas, lines of research, ongoing projects and curricular structure, as well as the available infrastructure, in relation to the objectives, mission and modality of the Program.

LP1 - Nutritional epidemiology

- **Project 1.1:** Nutritional epidemiology in life cycles
- **Project 1.2:** Epidemiology of nutritional disorders and chronic non-communicable diseases and their connection with diets
- Project 1.3: Diagnostic techniques and methods in the nutritional and dietary assessment of individuals and populations

LP2 – Interventions and public policies in food and nutrition

- Project 2.1: Assessment of policies and programs for food and nutrition as well as for food and nutrition security
- Project 2.2: Formulation, tests and assessment of nutritional interventions in population groups and in healthcare facilities and other sectors

LP3 - Food environment and society

- Project 3.1: Eating practices, connections
 and sociocultural contexts
- Project 3.2: Built environment, food environment and their connection to health
- Project 3.3: Foods, nutrients and bioactive components in relation to nutritional disorders and other diseases that impact population health

Isolated project: Pedagogical and organizational processes for formation in food, nutrition and health

Program

1.1 Articulation, adherence and updating of the concentration areas, lines of research, ongoing projects and curricular structure, as well as the available infrastructure, in relation to the objectives, mission and modality of the Program.

- 29 PPGNSP disciplines + 70 more disciplines in various topics, such as biostatistics, epidemiology, health policy and management, health and life cycles, global health, environment and sustainability of other PPPG at FSP
- Lab network
- Library
- Adequate infrastructure that supports the activities of the program's three lines of research and the PPGNSP teaching, research, scientific dissemination and internationalization activities.



1.2 Profile of the teaching staff, and their compatibility and adequacy to the Program proposal.



The Nutrition in Public Health Graduate Program (PPGNSP) currently has 22 permanent professors and eight collaborators.

There is high stability of the permanent staff, since the majority (90%) worked in the four years of the cycle being assessed (2017-2020) and two young PhD professors were accredited in 2018.

The profile of the Program's permanent advisors is marked by an expressive female participation (77%).

The most frequent **undergraduate formation degree** is Nutrition (64%), followed by Medicine (18%) and, composing the multidisciplinary profile, there are advisors graduated in Pharmacy and Biochemistry, Physical Education, Economics and Agronomy. As for **graduate formation degrees**, the distribution of professors into four main areas of knowledge is as follows: Public Health (55%), Food Science (23%), Human Nutrition (18%) and Medicine I (49%)

1.2 Profile of the teaching staff, and their compatibility and adequacy to the Program proposal.

1.

Thirteen of the 22
permanent
professors (59%)
are research
productivity grant
recipients from the
Conselho Nacional
de Desenvolvimento
Científico e
Tecnológico (CNPq).

2.

All permanent
advisors were
involved in the
Program teaching
activities, being
responsible for at
least one discipline.

3.

The program advisors collaborate as **ad hoc reviewers** of important journals in the field of Nutrition and Public Health.

4.

As for research funding,
PPGNSP professors have
excellent fundraising skills.
One hundred percent of
permanent advisors
coordinated funded
projects in the 2017–2020
cycle.

5.

FAPESP, CNPQ and international funding agencies projects 1.2 Profile of the teaching staff, and their compatibility and adequacy to the Program proposal.

Thematic projects:

1.

"Food processing, diet quality and human health", coordinated by Prof. Dr. Carlos Augusto Monteiro 2.

"MINA Study –

Maternal and Child in

Acre: birth cohort from
the Brazilian Western

Amazon", coordinated
by Prof. Dr. Marly

Augusto

3.

"Relationship between maternal adiposity and conceptus adiposity in the fetal, neonatal and first year of life: a prospective population-based study", coordinated by Prof. Dr. Patrícia Helen de Carvalho Rondó

4.

"Lifestyle, biochemical and genetic markers as cardiometabolic risk factors: Health Survey in the city of São Paulo", coordinated by Prof. Dr. Regina Mara Fisberg 5.

"Built-in environment, physical activity and nutritional status in adults: a longitudinal study", coordinated by Prof. Dr. Alex Antonio Florindo

1.3 Strategic planning of the Program, also considering articulations with the institution strategic planning, to manage its future development, adapting and improving the infrastructure and better formation for the students, linked to intellectual production - bibliographic, technical or artistic.

Academic Project of the School of Public Health / USP (2018 – 7) The principles that guided the strategic planning of the PPGNSP were:

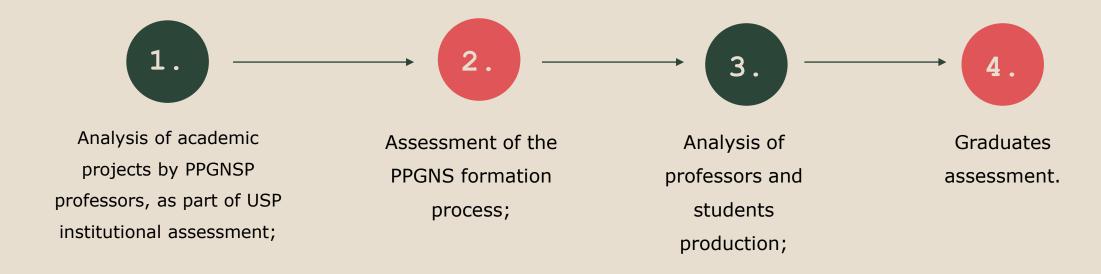
- Academic excellence
- Inseparability between teaching, research and extension;
- Nutrition in Public Health as a **disciplinary field** that is based on the interface of knowledge centers from two scientific fields, Public Health and Nutrition;
- Nationalization and internationalization
- Institutional environment
- Improvement of working relationships and conditions
- Need to adapt planning to the social, economic and political context of the country and the world.

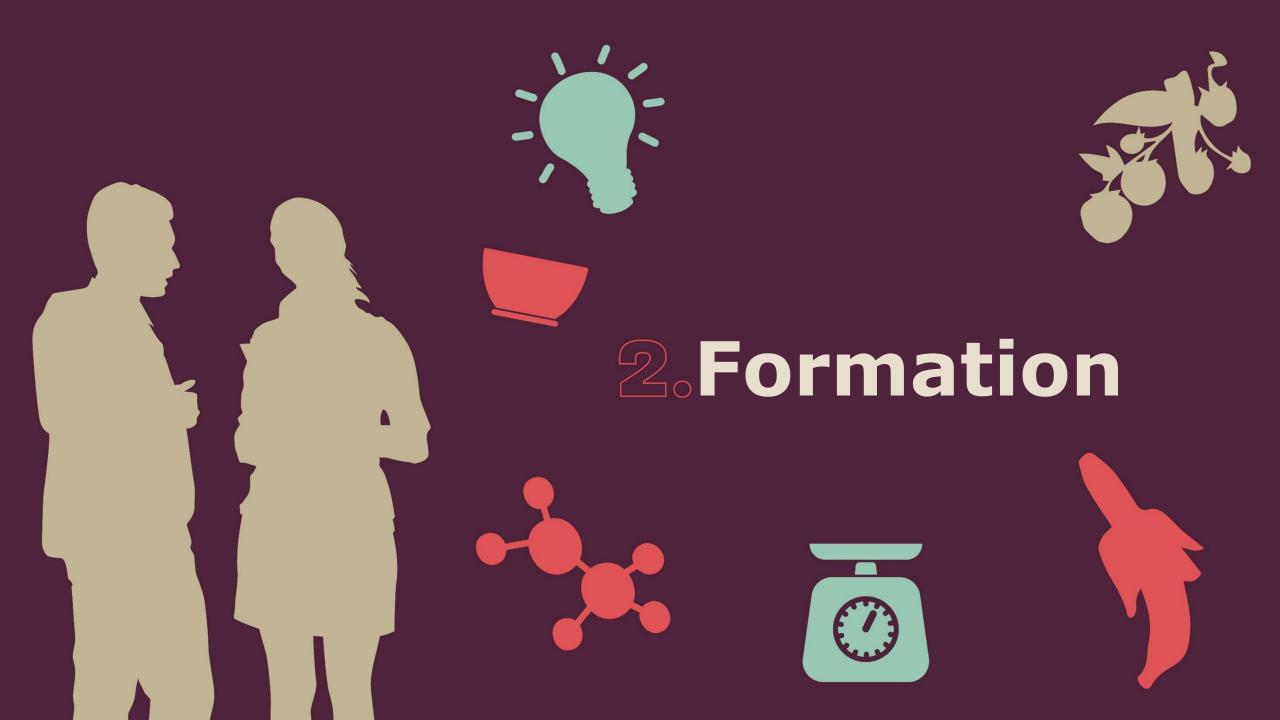
18 priority challenges in PPGNSP strategic planning

1.4 The processes, procedures and results of the Program self-assessment, focusing on student formation and intellectual production.

Pro-Rectory of Graduate Studies of USP - **Qualitative Assessment Program** for all graduate programs at the University

Four self-assessment domains of the Program:





2.1 Quality and adequacy of theses, dissertations or equivalent as to the concentration areas and lines of research of the Program.



In the four-year cycle ended in 2020, the Nutrition in Public Health Graduate Program(PPGNSP) accumulated a total of 111 theses and dissertations, of which 53 were dissertations and 58 theses.



Annual average degree:

13.3 dissertations defended per year, close to the average for the Public Health area, equivalent to 13.5/year

14.5 theses defended per year in the cycle is above the area average of 10.2/year.



Of the total number of PhD holders, 73
(65.8%) received scholarships from
funding agencies, partially or fully during
the graduate courses.



Among the 58 theses defended, it is noteworthy that **16 (27.6%) had sandwich internships**

2.1 Quality and adequacy of theses, dissertations or equivalent as to the concentration areas and lines of research of the Program.

Distribution of **theses and dissertations** in lines of research:

LP1 – Nutritional epidemiology (49,6%).

LP2– Interventions and public policies in food and nutrition (25,2%)

LP3 – Diet, environment and society (25,2%)





2.2 Quality of intellectual production from students and graduates.

The intellectual production of students and graduates has proven to be fundamental to the activities of the Nutrition in Public Health Graduate Program (PPGNSP) in the 2017-2020 cycle.

98.3% of the theses and dissertations presented are available on Portal da Biblioteca Digital de Teses e Dissertações da USP (n=348).

Between 2017 and 2020, a set of **1070 scientific articles** were published, linked to the PPGNSP. Of this total, it is noteworthy the significant general proportion of **31.8%** (n=339) of papers whose first authorship position is occupied by students and graduates.

As for books and book chapters, 342 papers were registered in the cycle, with the position of first authorship being occupied by students and graduates in 27.8% of the cases (n=95).

Among 711 papers in the annals of scientific events in the period, 36.8% (n=262) were first authored by students and graduates.

2.3 Destination, performance and assessment of graduates from the Program as to the formation received.

Mapping the profile of graduates through digital curriculum platforms (311 individuals with a master's and/or doctoral degree were mapped):

- Less than 4% (n=12) could not be located, all of whom hold degrees in periods prior to the present cycle.
- 15.4% comprise individuals who have functions with less adherence in relation to the PPGNSP scope, of which 51 were accredited in the Program with a master's degree only.
- 80.6% comprise individuals working in areas compatible with the PPGNSP scope.

2.3 Destination, performance and assessment of graduates from the Program as to the formation received.

Mapping of graduates' profile

1.

There are 38 graduates (12.2%) acting in public health services, 30 of which hold a master's degree.

2.

Teaching functions
with a high inclination
towards the
development of
teaching activities are
performed by 21.5%
of the total number
of graduates (n=67)

3.

56 graduates
(18.0%) hold
teaching positions in
a wide range of
Brazilian public
universities and in
some foreign
institutions

4.

Research work in national and foreign institutions comprises more than 42 graduates (13.5%), 32 of whom at doctoral level.

5.

20 graduates (6.5%), 12
of which have a PhD,
occupy positions related
to planning,
implementation,
management and
assessment of programs
and public policies in food,
nutrition and health

2.3 Destination, performance and assessment of graduates from the Program as to the formation received.

Portal Alumni USP \rightarrow 30 anonymous statements from PPGNSP graduates

The PPGNSP impact on the trajectory of graduates was widely recognized:

- Knowledge expansion, technical training, teamwork, building professional networks and fostering personal growth.
- Studied disciplines supported the development of disciplines proposed by graduates in teaching positions.
- Provide graduates with eligibility for acting as course coordinators, accreditation as advisors in graduate programs and progression in the academic career with the degrees obtained.
- Compose competences for advising students in scientific initiation, master's and doctorate, for the proposition of research projects.

2.4 Quality of the research activities and intellectual production of the Program teaching staff.

In the 2017–2020 cycle, the PPGNSP **totaled 2240** bibliographic productions and 1143 technical productions.

There has been an **expressive growth in the number** of publications and notably in the bibliographic production, in relation to the previous assessment cycle.

The Program contributed with **1070 articles in journals**, totaling an average of 267.5 manuscripts published annually, and also 342 books and book chapters.

Distribution of articles (n=1070) by lines of research:

- LP1 Nutritional epidemiology: a little over 60%
- LP2 Interventions and public policies in food and nutrition: about 20%
 - LP3 Diet, environment and society about 20%
- Productions linked to the isolated project, in "Pedagogical and organizational processes for formation in food, nutrition and health": 1%

2.4 Quality of the research activities and intellectual production of the Program teaching staff.

WeR_USP-PosGrad

- 2017 and 2020 Cumulative citations:
- 64.1 thousand citations on Google Scholar
- 25.3 thousand citations in the Scopus database
- 20.5 thousand citations in the Web of Science
- **Increase** in the volume of citations between 2017 and 2020:

Google Scholar: from 13.8 thousand to 18.7 thousand

Scopus: from 4.5 thousand to 8.6 mil thousand

Web of Science: from 3.7 thousand to 6 thousand

- Average H-index values from 2017 to 2020:
- 32.5 on Google Scholar:
- 22 on Scopus
- 18 in the Web of Science.

2.4 Quality of the research activities and intellectual production of the Program teaching staff.

Regarding technical production, a selection of 295 products from the subtypes of short-term courses, event organization, technical services and development of didactic and instructional material.

Distribution of technical products by LP:

LP1 - Nutritional epidemiology: 40%

LP2 – Interventions and public policies in food and

nutrition: 40%

LP3 - Diet, environment and society: 20%



2.5 Quality and involvement of teaching staff in relation to formation activities in the Program.

- Great stability standard: staff composed of a total of 20 professors working throughout the period under assessment, in addition to two young PhD professors accredited in 2018.
- At the end of 2020, the PPGNSP had 22 permanent professors (73.3%) and eight collaborators (26.7%).

- Weekly workload allocated to PPGNSP is equal to or greater than 20 hours among 90.9% (n=20) of its 22 permanent professors.
- Average of advising/year/permanent professor: 4.7
 advising.



3.1 Impact and innovative profile of intellectual production depending on the Program nature.

- Unique proposal in the country, by articulating the fields of Public Health and Nutrition for knowledge production and dissemination, formation of skilled human resources and acting in public policies
- The impact of its activities on society is based on its relevant intellectual production.
- Bibliometric indicators and highlights



3.2 Economic, social and cultural impact of the Program.

- Skilled human resources formation
- Formation of a **new narrative on healthy and sustainable diet** in the country and in the world, as highlighted by the successful cases
- Scientific communication and dissemination → strategy for producing dialogue with public authorities and society.
- Support in the development of instruments and techniques applied to the assessment of nutritional status and food consumption used in **public policies (MoH and IBGE)**
- The Program initial adherence to affirmative action and/or social inclusion policies →
 scoring system for granting scholarships adopted an increase in the values of 15% for
 people with low income and 5% for Brown, Black and Native Indians (PPI) students



3.3 Internationalization, insertion (local, regional, national) and Program visibility.

I. Internationalization

- Permanent professors who coordinated research projects with funding from international agencies and organizations;
- II. Permanent professors who coordinated research projects with the participation of researchers from foreign institutions;
- III.Permanent professors who collaborated in research projects developed by foreign institutions;
- IV. Papers published with international collaboration;

- V. Foreign professors or visiting researchers received by the Program.
- VI. Foreign students enrolled in the Program;
- VII.Students who performed a **sandwich internship** in foreign institutions;
- VIII.Reception of foreign students in a sandwich internship in the Program;
- IX. Participation of professors and students in international scientific events;
- X. Participation of permanent professors as members of the editorial board of international journals.

3.3 Internationalization, insertion (local, regional, national) and Program visibility.

II. Insertion (local,
regional and national)

Cooperation and partnership with several higher education institutions (IES) and research centers in Brazil.

Nutrition in Public Health
Interinstitutional Doctoral
Program - DINTER FSP-UFPI

Place of birth of students seeking the Program, who come from all Brazilian regions:

66.3% Southeast region, chiefly from the State of São Paulo (56.8%),

17.6% in the Northeast region

6% in the South region,

3.5% in the Northeast region

2.5% in the Midwest region

4% were foreigners.

Approximate distribution when considering the location of the higher education institutions (IES) where the students graduated.

3.3 Internationalization, insertion (local, regional, national) and Program visibility.

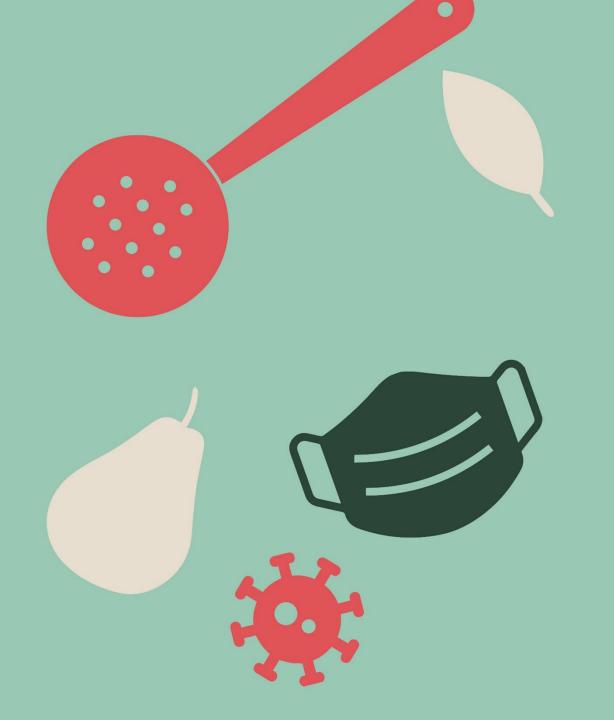
III. Visibility

FSP/USP electronic page and on the Program page itself

FSP/USP channels and profiles on **social networks** for publishing dissertations and theses, events and knowledge dissemination.

PPGNSP teaching staff research groups have websites anchored on the FSP/USP website and profiles on social networks.

Over 20 scientific articles by the PPGNSP teaching staff have achieved excellent results of impact on communication with society: Altmetric score >20





Impact of COVID-19 on Program actions



Impact of COVID-19 on Program actions

I. Impact on the formation process in the Program

Teleworking
Measures taken

II. Impact on scientific production.

PPGNSP professors, students and graduates published nine **articles** directly related to **COVID-19**

Rights in the Pandemic Bulletin, which is part of the project "Mapping and analysis of legal norms for responding to COVID-19 in Brazil" / CEPEDISA from FSP/USP

Proposition and development of a new research and university extension project, entitled "Food and nutrition (In)security of undergraduate students at the Universidade de São Paulo-USP: local study, in times of COVID-19"

Scientific dissemination activities related to COVID-19



Highlights

- ✓ 5 Theses
- √ 8 Productions
- √ 3 Graduates 2011-2015 + 3 Graduates
 2016/2020
- √ 3 Successful cases



Theses

- "Vitamin A status during pregnancy and its association with mother-infant outcomes in the MINA-Brazil study", authored by Paulo Augusto Ribeiro Neves, with advising from Marly Augusto Cardoso.
- "Consumption of ultra-processed foods, nutritional dietary quality and obesity in the Australian population", by Priscila Pereira Machado, with advising from Carlos Augusto Monteiro.
- "NKTS, SOFIE and ESQUADA: scales to evaluate the nutritional knowledge, the motivations influencing food choices, and the quality of diet using the Item Response Theory", by Thanise Sabrina Souza Santos, with advising from Betzabeth Slater Villar.

- "Impact of an educational intervention to implement the Dietary Guidelines for the Brazilian Population in primary health care", by Claudia Raulino Tramontt, with advising from Patricia Constante Jaime.
- "Epidemiological study of coffee consumption, its contribution to the intake of polyphenols and their potential effects in cardiovascular risk factors, considering individual genetic variations", authored by Andreia Alexandra Machado Miranda, with advising from Dirce Maria Lobo Marchioni.

Highlights - Theses

1. "Vitamin A status during pregnancy and its association with mother-infant outcomes in the MINA-Brazil study", doctoral thesis by Paulo Augusto Ribeiro Neves, with advising from Marly Augusto Cardoso.



Thesis Defense in 2018

Thesis developed in **LP1 – Nutritional Epidemiology,** in the project "Nutritional epidemiology in life cycles".

CNPq Scholarship and **Sandwich Doctorate** Scholarship Abroad from CAPES (Harvard T.H. Chan School of Public Health / USA)

Investigation of the **nutritional status of vitamin A during pregnancy**, whose role is fundamental for a wide range of biological processes (including vision, immune function, bone metabolism, among others), encompassing the critical period of the first thousand days of life ahead of early determinants of the health-disease process.

The set of **evidence** reinforced the need for actions for greater coverage of prenatal care with the promotion of healthy eating, adverse effects of inadequate levels of vitamin A for the mother-child binomial.

Thesis products:

- ✓ Neves PAR et al. Predictors of vitamin A status among pregnant women in Western Brazilian Amazon. British Journal of Nutrition. 2019. doi: 10.1017/S0007114518003112.
- ✓ Neves PAR et al. Effect of vitamin A status during pregnancy on maternal anemia and newborn birth weight: results from a cohort study in the Western Brazilian Amazon. **European Journal of Nutrition**. 2020. doi: 10.1007/s00394-018-1880-1.
- ✓ Neves PAR et al. High prevalence of gestational night blindness and maternal anemia in a population-based survey of Brazilian Amazonian postpartum women. Plos One. 2019. doi: 10.1371/journal.pone.0219203.

2. "Consumption of ultra-processed foods, nutritional dietary quality and obesity in the Australian population", doctoral thesis by Priscila Pereira Machado, with advising from Carlos Augusto Monteiro.



Thesis Defense in 2019

Thesis developed in **LP1 – Nutritional Epidemiology**, in the project "Epidemiology of nutritional disorders and non-communicable chronic diseases and their relationship with food".

FAPESP (University of Melbourne/Australia) scholarships **and** Research internship abroad.

Investigation of the effects of industrial food processing on population health in the **Australian module of the FAPESP thematic project** "Consumption of ultra-processed foods, dietary nutritional profile and obesity in seven countries".

There was a positive association in dose-response relationships between the **consumption of ultra-processed foods** with inadequate intake of nutrients that are predictors of non-communicable chronic diseases and with body mass index and waist circumference, as well as with greater chances of **obesity**.

- ✓ Machado PP et al. Ultra-processed foods and recommended intake levels of nutrients linked to non-communicable diseases in Australia: evidence from a nationally representative cross-sectional study. BMJ Open. 2019. doi: 10.1136/bmjopen-2019029544.
- ✓ Machado PP et al. Ultra-processed food consumption drives excessive free sugar intake among all age groups in Australia. European Journal of Nutrition, 2020. doi: 10.1007/s00394-019-02125-y.
- ✓ Machado PP et al. Ultra-processed food consumption and obesity in the Australian adult population. Nutrition & Diabetes. 2020. doi: 10.1038/s41387-020-00141-0.

3. "NKTS, SOFIE and ESQUADA: scales to evaluate the nutritional knowledge, the motivations influencing food choices, and the quality of diet using the Item Response Theory", doctoral thesis by Thanise Sabrina Souza Santos, with advising from Betzabeth Slater Villar.



Thesis Defense in 2019

Thesis developed in **LP1 – Nutritional Epidemiology,** in the project "Diagnostic techniques and methods in the nutritional and dietary assessment of individuals and populations".

Scholarships and **Sandwich Doctoral** Scholarships Abroad from CAPES (Universidad de Zaragoza / Spain).

Nutritional knowledge scales, health motivation for food choices and diet quality were proposed, applying the most recent recommendations for **psychometric studies**.

The thesis provides a set of scales very well methodologically posted for future uses, with more precise items in the assessment of the desired constructs.

- ✓ Santos TSS et al. Measuring nutritional knowledge using Item Response Theory and its validity in European adolescents. **Public Health Nutrition**. 2019. doi: 10.1017/S1368980018003269.
- ✓ Santos TSS et al. A new measure of health motivation influencing food choices and its association with food intakes and nutritional biomarkers in European adolescents. **Public Health Nutrition**. 2020. doi: 10.1017/S1368980019004658.
- ✓ Santos TSS et al. Qualitative and quantitative analysis of the relevance, clarity, and comprehensibility of the Scale of Quality of Diet (ESQUADA). Archivos Latinoamericanos de Nutrición. 2018.
- ✓ Santos TSS et al. Two pieces of evidence of ESQUADA validity and levels of Brazilians' diet quality. **Revista de Saúde Pública**. 2020. doi: 10.11606/s1518-8787.2021055002397.
- ✓ Santos TSS, Slater B. Challenges in developing a more accurate measure: a combination of qualitative analysis and Item Response Theory. In: SAGE Research Methods Cases: Medicine and Health. 2020.

4. "Impact of an educational intervention to implement the Dietary Guidelines for the Brazilian Population in primary health care", doctoral thesis by Claudia Raulino Tramontt, with advising from Patricia Constante Jaime.



Thesis Defense in 2020

Thesis developed in LP2 – Interventions and public policies in food and nutrition, in the project "Formulation, experimentation and assessment of nutritional interventions in population groups and in health facilities and in other sectors".

Scholarships and **Sandwich Doctoral** Scholarships Abroad from CAPES (Universidade do Porto / Portugal).

It was proven that the proposed intervention increased knowledge and self-efficacy of health professionals on the **Dietary Guidelines for the Brazilian Population.**

The thesis addresses the power of food as a transversal theme in the real context of health services, recognizing **primary health care at SUS as privileged locus** for the implementation of strategies and echoing guidelines of the National Policies of Primary Care, Health Promotion and Food and Nutrition.

- ✓ Tramontt CR, Jaime PC. Improving knowledge, self-efficacy and collective efficacy regarding the Brazilian dietary guidelines in primary health care professionals: a community controlled trial. BMC Family Practice. 2020. doi: 10.1186/s12875-020-01245-3.
- ✓ Tramontt CR et al. Dietary guidelines training may improve health promotion practice: Results of a controlled trial in Brazil. **Nutrition and Health**. 2020. doi: 10.1177/0260106021996924.
- ✓ Tramontt CR et al. Knowledge, self-efficacy and professional practices related to the Dietary Guidelines for the Brazilian population in primary health care. Reports in Public Health. 2021.
- ✓ Brasil. Ministério da Saúde. Instructional manual: implementing the Dietary Guidelines for the Brazilian Population in teams working in Primary Health Care. Ministério da Saúde; Universidade de São Paulo. Brasília: Ministério da Saúde, 2019.

5. "Epidemiological study of coffee consumption, its contribution to the intake of polyphenols and their potential effects in cardiovascular risk factors, considering individual genetic variations", doctoral thesis by Andreia Alexandra Machado Miranda, with advising from Dirce Maria Lobo Marchioni.



Thesis Defense in 2017

Thesis fits into LP3 – Diet, environment and society, in the project "Foods, nutrients and bioactive components in relation to nutritional disorders and other diseases that impact population health

FAPESP scholarships.

Using data from the São Paulo Health Survey (ISA-Capital), with individuals aged 20 years or older residing in the urban area of the city, the thesis aimed to estimate the prevalence of coffee consumption and its contribution to the intake of polyphenols, in addition to investigate the association of coffee with cardiovascular risk factors and to analyze the interaction between genetic variations and the beverage consumption in blood pressure levels.

- ✓ Miranda AM et al. Dietary intake and food contributors of polyphenolsin adults and elderly adults of Sao Paulo: a population-based study. **British Journal of Nutrition**. 2016. doi: 10.1017/S0007114515005061.
- ✓ Miranda AM et al. Association between polyphenol intake and hypertension in adults and older adults: a population-based study in Brazil. **Plos One.** 2016. doi: 10.1371/journal.pone.0165791.
- ✓ Miranda AM et al. The effect of coffee intake on lysophosphatidylcholines: a targeted metabolomic approach. **Clinical Nutrition.** 2017. doi: 10.1016/j.clnu.2016.10.012.
- ✓ Miranda AM et al. Association between coffee consumption and its polyphenols with cardiovascular risk factors: a population-based study. **Nutrients.** 2017. doi: 10.3390/nu9030276.
- Miranda AM et al. The association between genetic risk score and blood pressure is modified by coffee consumption: gene-diet interaction analysis in a population-based study. Clinical Nutrition. 2019. doi: 10.1016/j.clnu.2018.07.033.

Productions

- 1. Monteiro CA, Cannon G, Moubarac JC, Levy RB, Louzada MLC, Jaime PC. The UN Decade of Nutrition, the NOVA food classification and the trouble with ultra-processing. Public Health Nutrition. 2018; 21: 5-17.
- 2. Mello AV, Sarti FM, Pereira JL, Goldbaum M, Galvão CL, Alves MCGP, Fisberg RM. Determinants of inequalities in the quality of Brazilian diet: trends in 12-year population-based study (2003-2015). International Journal for Equity in Health. 2018; 17: 1-11.
- Maintinguer Norde M, Oki E, Ferreira Carioca AA, Teixeira Damasceno NR, Fisberg RM, Lobo Marchioni DM, Rogero MM. Influence of IL1B, IL6 and IL10 gene variants and plasma fatty acid interaction on metabolic syndrome risk in a cross-sectional population-based study. Clinical Nutrition. 2018; 37: 659-666.
- 4. Nutricare app. LANPOP

- Silva LLS, Augusto RA, Tietzmann DC, Sequeira LAS, Hadler MCCM, Muniz PT, de Lira PIC, Cardoso MA; ENFAC Working Group. The impact of home fortification with multiple micronutrient powder on vitamin A status in young children: A multicenter pragmatic controlled trial in Brazil. Maternal and Child Nutrition. 2017; 13: e12403.
- 6. Khandpur N, de Morais Sato P, Mais LA, Bortoletto Martins AP, Spinillo CG, Garcia MT, Urquizar Rojas CF, Jaime PC. Are front-of-package warning labels more effective at communicating nutrition information than traffic-light labels? A randomized controlled experiment in a Brazilian sample. Nutrients. 2018; 10: 688.
- Machado PP, Claro RM, Canella DS, Sarti FM, Levy RB. Price and convenience: The influence of supermarkets on consumption of ultraprocessed foods and beverages in Brazil. Appetite. 2017; 116: 381-388.
- 8. Sarti FM, Torres EAFS. Nutrition and public health: food production and consumption. São Paulo: Manole; 2017.

2011-2015 and 2016/2020

Graduates



Daniela Silva Canella (2014)



Bárbara Hatzlhoffer Lourenço (2014)



Maria Laura da Costa Louzada (2015)



Bartira Mendes Gorgulho (2016)



Thiago Hérick de Sá (2016)



Gabriela dos Santos Buccini (2017).

Daniela Silva Canella (2014)



Nutritionist graduated from the
Universidade Federal de Goiás in
2007, completing her master's degree
in 2011 and her doctorate in 2014,
both by the PPGNSP.

She was **advised** by Prof. Dr. Patricia Constante Jaime in the Master's and by Prof. Dr. Renata Bertazzi Levy in her doctorate.

- ✓ She worked as a substitute professor of the undergraduate course in Nutrition at the Universidade Federal de São Paulo in 2014.
- ✓ Since 2015, she has been an adjunct professor in the Department of Applied Nutrition from the Institute of Nutrition at the Universidade do Estado do Rio de Janeiro (UERJ). Coordinator of the Graduate Program in Food, Nutrition and Health at UERJ.
- ✓ She has 1,342 citations and an H index of 14 in the Web of Science. On Google Scholar, she reached 3,946 citations and an H index of 21.
- ✓ They illustrate the graduate's successful trajectory and point out the PPGNSP objective scope of human resources excellence formation in teaching and applied research in the disciplinary field of Nutrition in Public Health.

Bárbara Hatzlhoffer Lourenço (2014)



Nutritionist graduated from the Faculty of Public Health/FSP at USP in 2008. In 2014, she concluded a direct doctoral program by the PPGNSP.

She was **advised** by Prof. Dr Marly Augusto Cardoso

- ✓ She was an adjunct professor in the area of Public Health at the Department of Preventive Medicine at Escola Paulista de Medicina, Universidade Federal de São Paulo.
- ✓ Since 2018, she has been a professor doctor at the Department of Nutrition at FSP/USP.
- ✓ Permanent advisor and vice-coordinator of the PPGNSP
- ✓ She has an H index of 12 on Web of Science and 18 on Google Scholar.
- ✓ Recently awarded with the prestigious Junior Faculty Member Award from the Fulbright Commission and a CAPES/Print internationalization grant to work as a visiting professor at Harvard T.H. Chan School of Public Health.

Maria Laura da Costa Louzada (2015)



Nutritionist graduated from the Universidade Federal de Ciências da Saúde de Porto Alegre in 2009, where she also completed her master's degree in 2011. Completed her doctorate in 2015 at the PPGNSP.

She was **advised** by Prof. Dr. Carlos Augusto Monteiro.

- ✓ She was an assistant professor at the Universidade Federal de São Paulo, Baixada Santista campus, from 2017 to 2019.
- ✓ Since 2019, she has been a professor doctor at the Department of Nutrition at Faculdade de Saúde Pública at USP. Permanent advisor of the PPGNSP
- ✓ In 2020, she joined the select group of 19 Brazilians who are part of the 1% most cited researchers in the international literature, according to Clarivate Analytics/Web of Science (2,368 citations and an H index of 19). On Google Scholar, she reached 6,258 citations and an H index of 29. She has an H index equal to 12 in Web of Science and 18 on Google Scholar.

Bartira Mendes Gorgulho (2016)



Nutritionist graduated from the Faculty of Public Health/FSP at USP in 2010. Completed her master's degree in 2012 and her doctorate in 2016, both by the PPGNSP.

She was **advised** by Prof. Dr. Dirce Maria Lobo Marchioni.

- ✓ Since 2018, she has been an adjunct professor at the Department of Food and Nutrition at the Faculdade de Nutrição da Universidade Federal de Mato Grosso (UFMT), Cuiabá campus.
- ✓ Accredited advisor in the Master's Graduate Program in Nutrition, Food and Metabolism, at the same institution.
- ✓ She has 93 citations and an H index of 5 in the Web of Science. On Google Scholar, it reached 308 citations and an H index of 10.
- ✓ It illustrates the effective insertion of the graduate in the national academic community, as well as the achievement of the PPGNSP objective of training human resources excellence formation for teaching and applied research in the disciplinary field of Nutrition in Public Health, based in the Midwest region of the country.

Thiago Hérick de Sá (2016)



Bachelor in **Sport** from the Universidade de São Paulo.
Completed his **master's** degree in 2011 and his **doctorate** in 2016, both by the PPGNSP.

He was **advised** by Prof. Dr. Alex Antonio Florindo in the master's degree and by Prof. Dr. Carlos Augusto Monteiro in his doctorate.

- ✓ He build up academic collaboration relationships with other research centers abroad.
- ✓ Received an honorable mention from the Capes Thesis Award 2016 in the Public Health area.
- ✓ He has 404 citations and an H index of 9 in the Web of Science. On Google Scholar,
 he reached 2.115 citations and an H index of 22.
- ✓ Since 2015, he has been working as an international technical officer in Healthy
 Urban Environments, Transport and Health at the World Health Organization (WHO Geneva).
- ✓ It illustrates the scope of the PPGNSP mission to produce knowledge in the disciplinary field of Nutrition in Public Health, form people with excellence and technically and scientifically support public organizations and institutions to promote health to the population.

Gabriela dos Santos Buccini (2017)



Speech therapist and international lactation consultant (International Board of Lactation Consultant Examiners), having completed her master's degree in 2012 and her doctorate in 2017, both by the PPGNSP.

She was **advised** by Prof. Dr. Maria Helena D'Aquino Benício in her master's degree and by Prof. Dr. Sonia Isoyama Venâncio in the doctorate.

- ✓ She was awarded a scholarship from Yale University, where she did her postdoctoral studies in Science of Public Policy and Program Implementation, focusing on maternal and child health, from 2017 to 2020.
- ✓ Since 2021, he has been an Assistant Professor of Social and Behavioral Health, at the School of Public Health, University of Nevada, Las Vegas (USA).
- ✓ She has 270 citations and an H index of 9 in the Web of Science. On Google Scholar, it reached 828 citations and an H index of 14.
- ✓ It illustrates with excellence the scope of the PPGNSP objective of forming human resources for teaching and applied research in the disciplinary field of Nutrition in Public Health and with international insertion

3 successful cases of the PPG Nutrition in Public Health are presented.

These cases aim to portray the trajectory and solidity of a traditional line of research of the Program, ongoing since its accreditation, highlight an experience of strong innovation power for the production of knowledge conceived in this forming space in Nutrition in Public Health, and highlight the applicability of scientific evidence in the design and implementation of public policies.

In light of this new graduate assessment proposal, the selection of cases is an illustration of the PPGNSP state of the art. With the experiences described here, several other original research initiatives are underway, multiplying their impact on the area of Public Health and their commitment to the Unified Health System, in the production of evidence and in practice, from local to global level.

1.

Case 1: Methodological contributions in nutritional epidemiology for nationwide population surveys.

2.

Case 2: NOVA
classification of foods:
paradigmatic rupture for
Nutrition in Public Health.

3.

Case 3: Dietary guidelines
for the Brazilian
Population: from
implementation to policy
transfer.



Case 1: Methodological contributions in nutritional epidemiology for nationwide population surveys.

Since its creation in 2007, the PPGNSP has developed the research project "Diagnostic techniques and methods in the nutritional and dietary assessment of individuals and populations", which involves the production of knowledge about techniques, instruments and methods for the diagnosis of nutritional status and assessment of food consumption in population surveys.

These are academic efforts aimed at understanding the health and nutrition status of Brazilian population, as well as the occurrence and temporal trends of risk factors and protection for chronic noncommunicable diseases related to dieting.

The present case achieved a relevant professional, technological and public policy impact. It is noteworthy the incorporation of new instruments for assessing food consumption in national surveys developed by the Ministry of Health and the Instituto Brasileiro de Geografia e Estatística and, in the present cycle, the impact linked to thetechnical coordination and advice linked to the National Food Survey in the 2017–2018 Household Budget Survey.



Case 2: NOVA
classification of foods:
paradigmatic rupture for
Nutrition in Public Health.

Created in 2009 by PPGNSP researchers, the NOVA classification is the first classification system that organizes foods by degree and purpose of processing and coined the term ultra-processed foods in the scientific literature.

This innovative classification boosted and supported a profusion of new studies in nutritional epidemiology, in an increasing contribution to an alternative paradigm on the relationship between food and health, influencing the global scientific production in the area.

The scientific legitimacy achieved has favored the use of the NOVA classification by decision makers in the design of public policies to promote healthy eating and obesity prevention and control in Brazil and in other countries. In 2019, the Food and Agriculture Organization of the United Nations published a technical report that compiles evidence on the impact of ultra-processed foods on the quality of diet and health of the population.



Case 3: Dietary guidelines
for the Brazilian
Population: from
implementation to policy
transfer.

This project focuses on the translation of scientific knowledge about the relationship between food, nutrition and health into dietary advising for the Brazilian population, involving the development and implementation of the Dietary Guidelines for the Brazilian Population (GAPB).

The project was developed in two phases. In the first phase, PPGNSP professors and students supported the Ministry of Health in the technical preparation of the document. In the second one, a set of technologies was developed and validated to disseminate and implement the GAPB for different audiences and public policy spaces, with a special interest in primary health care in the Unified Health System (SUS).

The GAPB project achieved great professional impact, in public and social policies. Many of the implementation technologies produced were incorporated by the SUS and the GAPB inspired the revision of dietary guidelines from other countries, in a clear expression of the transfer of public policies at a global level.

Coordinating Committee of the Graduate Program in Nutrition in Public Health (PPGNSP)

Term: From 05/20/2020 to 05/19/2022

Primary members

Patricia Constante Jaime | Coordinator

Bárbara Hatzlhoffer Lourenço | Vice-coordinator

Elizabeth Aparecida Ferraz da Silva Torres

Marcelo Macedo Rogero

Secondary Members

Ligia Araújo Martini Cavalheiro

Maria Laura da Costa Louzada

Flavia Mori Sarti

Regina Mara Fisberg

Term: From 09/18/2019 to 05/19/2020

Primary members

Marcelo Macedo Rogero | Coordinator

Dirce Maria Lobo Marchioni Vice-coordinator

Wolney Lisboa Conde

Elizabeth A. Ferraz da Silva Torres

Renata Bertazzi Levy

Barbara Hatzlhoffer Lourenço

Regina Mara Fisberg

Secondary Members

Betzabeth Slater Villar

Flávia Mori Sarti

Maria Helena D'Aquino Benício

Fernanda Baeza Scagliusi

Sandra Maria Lima Ribeiro

Term: From 12/12/2016 to 12/11/2018

Dirce Maria Lobo Marchioni | Coordinator

Marcelo Macedo Rogero Vice-coordinator

Term: From 12/12/2017 to 12/11/2019

Primary Members

Lígia Araújo Martini

Marly Augusto Cardoso

Regina Mara Fisberg

Sandra Maria Lima Ribeiro - left on 11/20/2018.

Secondary Members

Elizabeth Aparecida Ferraz da Silva Torres

Renata Bertazzi Levy

Wolney Lisboa Conde



Coordinating Committee of the Graduate Program in Nutrition in Public Health (PPGNSP)

Student Representatives

Term: 2020/2021

Leandro Teixeira Cacau

Paula Nascimento Brandão Lima

Term: 2019/2020

Débora dos Santos Pereira

Leandro Teixeira Cacau

Term: 2018/2019

Amanda Cristina da Silva de Jesus

Mariane Helen de Oliveira

Term: 2017/2018

Kamila Tiemann Gabe

Naiá Ortelan

|Student Representative

| Secondary Student Representative

Secretariat

Alessandra Blaya Frutuoso

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Nutrition in Public Health Graduate Program Faculdade de Saúde Pública Universidade de São Paulo







Program Proposal and Highlights

São Paulo, August 2021

