

Status of the main noncommunicable diseases and lifestyles in the Brazilian population: *Brazilian National Health Survey, 2013 and 2019*

Celia Landmann Szwarcwald ¹

Sheila Rizato Stopa ²

Deborah Carvalho Malta ³

doi: 10.1590/0102-3111XEN276021

The elderly population in Brazil has grown at a fast pace, due mainly to changes in socio-economic development, urbanization, and healthcare in the last 30 years ¹. Since the creation of the Brazilian Unified National Health System (SUS), Brazil has made considerable progress towards extending a series of social protections to the entire population. Such achievements feature nearly universal healthcare, with the expansion of primary care based on the prioritization of areas with more precarious living conditions ².

However, the significant growth in the Brazilian population's longevity has brought an increase in noncommunicable diseases (NCDs), which include a considerable degree of disability and worsening of quality of life, besides increasing the demand on health services ³. In this context monitoring NCDs and evaluating healthy behaviors, which are protective factors against NCDs, should be based on the periodic collection and analysis of reliable and frequent data.

This *Supplement* of CSP presents the status of the main noncommunicable diseases and lifestyles in the Brazilian population. The publication provides a summary of the strides made from 2013 to 2019 and identifies areas, groups, and health behaviors that require additional efforts. The edition's articles vary considerably in their methods and approaches, but they all use data from the *Brazilian National Health Survey* (PNS).

Health surveys are essential tools for providing reliable information for guiding health policies to meet the population's needs and expectations in healthcare, health promotion, and prevention of diseases. In Brazil, the increasing need for information to formulate policies in areas of health promotion, surveillance, and healthcare at the national level led to the understanding that a national health survey would be necessary to meet the priorities of the Brazilian Ministry of Health ⁴.

The development of the PNS began in 2009 and was based on four pillars: assessment of the national health system performance from the user's perspective; establishment of the Brazilian population health conditions; surveillance of noncommunicable diseases and health behaviors; and equity, involving the actions of the social determinants of health-socioeconomic, cultural, behavioral, and environmental factors that influence health ⁵.

The PNS was carried out for the first time in 2013, by the Brazilian Ministry of Health in partnership with the Brazilian Institute of Geography and Statistics (IBGE), and is now

¹ Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz, Rio de Janeiro, Brasil.

² Ministério da Saúde, Brasília, Brasil.

³ Escola de Enfermagem, Universidade Federal de Minas Gerais, Belo Horizonte, Brasil.



widely used. In addition to the use of information to support health strategies and actions, several articles were published nationally and internationally and theses and dissertations in the area of collective health and nutrition from various academic institutions were prepared with survey data. The second edition of the PNS, held in 2019, made it possible, in turn, to monitor health indicators and examine the advances in the period and the challenges to be faced ⁶. PNS information, including household, individual and biomarker data (anthropometrics, blood pressure, laboratory tests), are publicly available and can be accessed free of charge and without prior authorization.

To characterize the socio-spatial trends in noncommunicable diseases and other health problems, the Brazilian population lifestyles, and healthcare in terms of the use of health services from 2013 to 2019, a Panel of Indicators was developed on the PNS website through the Platform of Data Science Applied to Health of the Institute of Scientific and Technological Communication and Information in Health, Oswaldo Cruz Foundation (ICICT/Fiocruz, <https://www.pns.icict.fiocruz.br/>). The panel presents health indicators according to demographic, socioeconomic, and geographic characteristics in the form of tables, graphs, and maps, available for downloading in various formats. The two PNS editions also supply information for monitoring global indicators, including the Sustainable Development Goals ⁷, the *Global Action Plan for the Prevention and Control of NCDs 2013-2020* ⁸, and the *Strategic Action Plan to Fight Noncommunicable Diseases in Brazil 2011-2022* ⁹.

In terms of design, the PNS is a nationwide household-based survey with dissemination domains at the national, regional, and state levels, main metropolitan areas, and state capitals ¹⁰. The sample is based on the IBGE Master Sample, selected by three-stage clusters (census tracts or combinations thereof, households, and individuals) with simple random sampling and maintaining the primary sampling units' stratification. As part of the current supplement, the methodological article is dedicated to describe the differences between the sampling plans of the two editions of the PNS (2013 and 2019) and assesses how the changes affected the coefficient of variation (CV) and the design effect (Deff) in the estimates of some indicators.

Various studies in this issue address the scope of the main NCDs in Brazil. Health care in adults diagnosed with arterial hypertension, diabetes mellitus, and depression in 2013 and 2019 were compared and socio-spatial inequalities in access to care and sources for obtaining medication were analyzed.

In terms of inequalities in health status, the *Supplement* includes an article on socioeconomic disparities in healthy life expectancy and a study that analyzes inequalities in the adoption of various healthy behaviors associated with the prevention of chronic conditions and with better quality of life during aging. The set of publications on health behaviors is enriched by an article on smoking and the contribution of legally regulated protection from exposure to passive smoking in closed workplaces, in addition to a study on alcohol use patterns in the Brazilian population in 2013 and 2019.

In face of one of the main epidemiological challenges in contemporary Brazil, namely the increase in overweight and obesity in the population, two articles in the supplement address eating habits, such as the score analysis of the ultra-processed food consumption, based on unprecedented questions in the 2019 survey on food intake on the day prior to the interview and a study comparing Brazilians' food consumption according to markers of healthy and unhealthy eating between 2013 and 2019. The change in the nutritional status of Brazilian adults from 2002 to 2019 was also the object of an article in this *Supplement* of CSP.

Each of these articles offers a unique perspective on the magnitude of noncommunicable diseases and the associated health behaviors, alongside the complexity of socioeconomic and regional inequalities in prevention and in healthcare for chronic patients. Together, the articles in the *Supplement* provide part of a picture of the progress achieved and future challenges with regard to the occurrence of NCDs and the lifestyles of Brazilians. While the increase in the prevalence of various NCDs from 2013 to 2019 reflects the epidemiological transition in Brazil, the upward trend in obesity in the 21st century influences the growth in diseases related to obesity and premature mortality. Meanwhile, the debate article assesses the changes in the prevalence and distribution of NCDs and associated risk factors from 2013 to 2019, based on the hypothesis that the deterioration in socioeconomic conditions during this period led to an increase in NCDs among underprivileged populations.

Faced with the increase in life expectancy in Brazil, the researchers who participated in the debate called attention to the need of studies to advance scientifically our understanding of the complex relationship of social and regional inequalities in the occurrence of chronic diseases, meanwhile indicating that the implementation of inter-sector public policies to promote equity is essential to establish wellbeing and to avoid the perpetuation of inequalities in healthy longevity, invariably unfavorable for socially disadvantaged groups.

We conclude with acknowledgements to the CSP editors for the editorial support in preparing the *Supplement*; to the authors who wrote articles of such outstanding interest to the public health field; to Professor Cesar Victora for the introductory article emphasizing the importance of health surveys; to researchers James Macinko and Pricila Mullachery, who opened the interesting and challenging debate on social inequalities related to NCDs; to the guest researchers who participated in the debate and proposed measures to promote greater equity; to IBGE and the Brazilian Ministry of Health for conducting the two editions of the PNS; to the Health Surveillance Secretariat of the Brazilian Ministry of Health for the encouragement and financial support in preparing this special edition; and to all the Brazilians who answered the PNS questionnaires and provided such valuable information for producing this work.

Contributors

The authors collaborated in the editorial's conception, discussion of the articles, elaboration of the text, and approved the final version.

Additional infomations

ORCID: Celia Landmann Szwarcwald (0000-0002-7798-2095); Sheila Rizato Stopa (0000-0001-8847-665X); Deborah Carvalho Malta (0000-0002-8214-5734).

1. Paim J, Travassos C, Almeida C, Bahia L, Macinko J. The Brazilian health system: history, advances, and challenges. *Lancet* 2011; 377:1778-97.
2. Leal MC, Szwarcwald CL, Almeida PVB, Aquino EML, Barreto ML, Barros F, et al. Reproductive, maternal, neonatal and child health in the 30 years since the creation of the Unified Health System (SUS). *Ciênc Saúde Colet* 2018; 23:1915-28.
3. Schmidt MI, Duncan BB, Azevedo e Silva G, Menezes AM, Monteiro CA, Barreto SM, et al. Chronic non-communicable diseases in Brazil: burden and current challenges. *Lancet* 2011; 377:1949-61.
4. Malta DC, Leal MC, Costa MFL, Morais-Neto OL. Inquéritos Nacionais de Saúde: experiência acumulada e proposta para o inquérito de saúde brasileiro. *Rev Bras Epidemiol* 2008; 11 Suppl 1:159-67.
5. Szwarcwald CL, Malta DC, Pereira CA, Vieira ML, Conde WL, Souza Júnior PR, et al. Pesquisa Nacional de Saúde no Brasil: concepção e metodologia de aplicação. *Ciênc Saúde Colet* 2014; 19:333-42.
6. Stopa SR, Szwarcwald CL, Oliveira MM, Gouveia ECDP, Vieira MLFP, Freitas MPS, et al. National Health Survey 2019: history, methods and perspectives. *Epidemiol Serv Saúde* 2020; 29:e2020315.
7. Organização das Nações Unidas. Objetivos de Desenvolvimento Sustentável. <https://nacoesunidas.org/pos2015/agenda2030/> (accessed on 23/Nov/2021).
8. World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva: World Health Organization; 2013.
9. Departamento de Vigilância de Doenças e Agravos Não Transmissíveis e Promoção da Saúde, Secretaria de Vigilância em Saúde, Ministério da Saúde. Plano de ações estratégicas para o enfrentamento das doenças crônicas não transmissíveis (DCNT) no Brasil 2011-2022. Brasília: Ministério da Saúde; 2011. (Série B. Textos Básicos de Saúde).
10. Souza-Jr PRB, Freitas MPS, Antonaci GA, Szwarcwald CL. Desenho da amostra da Pesquisa Nacional de Saúde 2013. *Epidemiol Serv Saúde* 2015; 24:207-16.

Submitted on 25/Nov/2021
Approved on 04/Feb/2022