

Population-based surveys and monitoring of noncommunicable diseases

Deborah Carvalho Malta^I, Célia Landmann Szwarcwald^{II}

^I Universidade Federal de Minas Gerais. Belo Horizonte, MG, Brasil

^{II} Instituto de Comunicação e Informação Científica e Tecnológica em Saúde. Fundação Oswaldo Cruz. Rio de Janeiro, RJ, Brasil

National population surveys are essential to learn the health profile, the distribution of risk factors and their tendencies, as well as health inequalities. The information collected periodically allow the monitoring of actions and programs and of health in different population subgroups and subsidize the planning and management of collective health interventions¹⁻³. Recently, Brazil has stood out by the improvement and advances in the health information systems, as well as in the organization of epidemiological surveys¹⁻³.

This supplement of *Revista de Saúde Pública* has articles based on unpublished findings of two major national health surveys: National Survey Health (PNS)⁴ and Evaluation of Risk and Protective Factors for Chronic Diseases by Telephone Survey (VIGITEL)⁵.

National Health Survey was held in 2013, being performed by the IBGE in partnership with the Brazilian Ministry of Health and collaboration of various institutions of education and research. More than 1,000 technicians of IBGE participated in the collection of data on 1,600 Brazilian municipalities. The PNS is a home-based and cross-sectional study, with stratified sampling in three stages of conglomeration. The census tracts were the primary sampling units, households, second stage units, and adult residents (18 years or older), third stage units. We collected information from 64,348 households. In each household, an adult resident aged 18 years or older was selected by simple random sample and, in total, 60,202 individuals were interviewed^{3,4}. PNS is the most extensive health survey ever held in the Country and includes themes such as health inequalities, use of services, primary health care, social assistance, health insurance, oral health, lifestyles, noncommunicable diseases, violence, accidents, life cycles (adults, older adults, children, women), people with disabilities and the use of medicines, including Anthropometry and blood pressure measures. In subsample, biochemical exams were collected^{3,4,6}.

Of the 11 studies held with the data of PNS, Stopa et al.⁷ highlighted the social inequalities in the use of health services. The authors⁷ found that, of the individuals who sought the health service in both weeks, 95.3% used the services, although it was more used by people aged 60 years or older, who reside in the south and southeast regions and by those whose head of household had a higher level of education. Malta et al.⁸ examined the factors associated with the use of services in the adult Brazilian population with non-communicable diseases (NCD), and Azevedo and Silva et al.⁹ analyzed the actions of early detection for breast cancer, initiated with the medical request for mammography. These authors^{8,9} identified differences between users of the Brazilian Unified Health System (SUS) and those who have private health insurance. However, Melo Silva et al.¹⁰ showed that the functional impairment in the older adults had a strong association with the number of medical appointments and hospitalizations, being similar in both public and private health systems.

Correspondence:

Deborah Carvalho Malta
Departamento de Enfermagem
Materno Infantil e Saúde Pública,
Escola de Enfermagem – UFMG
Av. Alfredo Balena, 190,
Santa Efigênia
30130-100 Belo Horizonte,
MG, Brasil
E-mail: dcmalta@uol.com.br

How to cite: Malta DC,
Szwarcwald CL. Population-based
surveys and monitoring of
noncommunicable diseases. *Rev
Saude Publica.* 2017;51 Suppl 1:2s.

Copyright: This is an open-access
article distributed under the
terms of the Creative Commons
Attribution License, which permits
unrestricted use, distribution, and
reproduction in any medium,
provided that the original author
and source are credited.



Still among the articles that addressed the NCD, Malta et al.¹¹ analyzed the factors associated with chronic pain in the column, concluding that advanced age, excess weight and obesity are important predictors for both sexes. Another article¹² analyzed factors associated with self-reported diagnosis of diabetes and found association with age, low education, smoke in the past, overweight and obesity, and high blood pressure, as well as with health state reported as bad. Barros et al.¹³ identified that individuals with depression have more unhealthy behaviors. Ahmed et al.¹⁴, on the other hand, in the article on work-related musculoskeletal disorder (DORT/LER), stressed the importance of this occupational disease that is the main cause of absences from work and results in disability in adults.

Regarding the analysis of inequalities in the health state of the Brazilian population, the article by Szwarcwald et al.¹⁵ showed relevant geographical differences in healthy life expectancy, indicator that measures the expected number of healthy life years for the population of a given age. As for the older adults, Lima-Costa et al.¹⁶ estimated the prevalence of informal and paid help to individuals with 60 years or older with functional limitations, which presented association with sociodemographic factors.

Jaime et al.¹⁷, on the other hand, identified the family influence and living conditions in the consumption of sugary drinks in children under two years of age.

The VIGITEL survey has been deployed since 2006 in the 26 Brazilian capitals and the Federal District, completing 11 years of continuous collection. The coordination is from the Health Surveillance Secretariat, MS, in partnership with the Center for Epidemiological Research in Nutrition and Health (NUPENS) of the University of São Paulo and support from several teaching and research institutions in the Country. With computer-aided telephone interviews, VIGITEL uses probabilistic samples of the adult population aged 18 years or older, residing in households served by at least one fixed telephone line in the year of the survey, in each one of the 26 capitals of Brazilian states and in the Federal District, totaling more than 54,000 interviews annually. Post-stratification weights are used to correct estimates⁵. Of both articles presented in this supplement based on analysis of information collected on VIGITEL 2015, the study by Bernal et al.¹⁸ aimed to assess the impact on the changes of the prevalence of chronic diseases' risk factors, disclosed on Vigitel, after the inclusion of data from the population that does not have fixed telephone line, only mobile phone. The other article analyzed the factors associated with the self-reported diagnosis of arterial hypertension¹⁹.

The results presented here extend the knowledge of the epidemiological profile of the Brazilian population, providing grants to states and municipalities for the planning of health promotion actions, being characterized as a health surveillance tool. Many of the articles have addressed issues regarding NCD, which represents a health problem of great magnitude, leading to premature deaths, disabilities, and negative impacts on the economy of the Country²⁰. The WHO recommends the organization of NCD surveillance by the monitoring of diseases and their risk factors, aiming to support actions for prevention and control^{20,21}.

The importance of these surveys' sustainability is important to highlight, as well as the compromise with the continuity of these research, which will play the role of monitoring of public policies and, in particular, of indicators and targets for reduction and control of NCD^{20,22,23}.

REFERENCES

1. Barros MBA. Inquéritos domiciliares de saúde: potencialidades e desafios. *Rev Bras Epidemiol.* 2008;11 Supl 1:6-19. <https://doi.org/10.1590/S1415-790X2008000500002>.
2. 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 Supl 1:159-67. <https://doi.org/10.1590/S1415-790X2008000500017>.
3. Szwarcwald CL, Malta DC, Pereira CA, Vieira MLFP, Conde WL, Souza Júnior PRB, et al. Pesquisa Nacional de Saúde no Brasil: concepção e metodologia de aplicação. *Cienc Saude Coletiva.* 2014;19(2):333-42. <https://doi.org/10.1590/1413-81232014192.14072012>.

4. Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional de Saúde 2013: percepção do estado de saúde, estilos de vida e doenças crônicas: Brasil, Grandes Regiões e Unidades da Federação. Rio de Janeiro: IBGE; 2014 [cited 22 Dec 2014]. Available from: <ftp://ftp.ibge.gov.br/PNS/2013/pns2013.pdf>
5. Ministério da Saúde (BR), Secretaria de Vigilância em Saúde, Departamento de Vigilância de Doenças e Agravos não Transmissíveis e Promoção da Saúde. Vigitel Brasil 2015: vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico. Brasília (DF): Ministério da Saúde; 2016.
6. Malta DC, Bernal RTI, Souza MFM, Szwarcwald CL, Lima MG, Barros MBA. Social inequalities in the prevalence of self-reported chronic non-communicable diseases in Brazil: National Health Survey 2013. *Int J Equity Health*. 2016;15:153. <https://doi.org/10.1186/s12939-016-0427-4>.
7. Stopa SR, Malta DC, Monteiro CN, Szwarcwald CL, Goldbaum M, Galvão Cesar CL. Acesso e uso de serviços de saúde pela população brasileira, Pesquisa Nacional de Saúde 2013. *Rev Saude Publica*. 2017;51 Supl 1:3s. <https://doi.org/10.1590/S1518-8787.2017051000074>.
8. Malta DC, Bernal RTI, Lima MG, Araújo SSC, Silva MMA, Freitas MIF, Barros MBA. Doenças crônicas não transmissíveis e a utilização de serviços de saúde: análise da Pesquisa Nacional de Saúde no Brasil. *Rev Saude Publica*. 2017;51 Supl 1:4s. <https://doi.org/10.1590/S1518-8787.2017051000090>.
9. Azevedo e Silva G, Souza-Júnior PRB, Damacena GN, Szwarcwald CL. Detecção precoce do câncer de mama no Brasil: dados da Pesquisa Nacional de Saúde 2013. *Rev Saude Publica*. 2017;51 Supl 1:14s. <https://doi.org/10.1590/S1518-8787.2017051000191>.
10. Melo Silva AM, Mambrini JVM, Peixoto SV, Malta DC, Lima-Costa MF. Uso de serviços de saúde por idosos brasileiros com e sem limitação funcional. *Rev Saude Publica*. 2017;51 Supl 1:5s. <https://doi.org/10.1590/S1518-8787.2017051000243>.
11. Malta DC, Oliveira MM, Andrade SSCA, Caiaffa WT, Souza MFM, Bernal RTI. Fatores associados à dor crônica na coluna em adultos no Brasil. *Rev Saude Publica*. 2017;51 Supl 1:9s. <https://doi.org/10.1590/S1518-8787.2017051000052>.
12. Malta DC, Bernal RTIB, Iser BPM, Szwarcwald CL, Duncan BB, Schmidt MI. Fatores associados ao diabetes autorreferido segundo a Pesquisa Nacional de Saúde 2013. *Rev Saude Publica*. 2017;51 Supl 1:12s. <https://doi.org/10.1590/S1518-8787.2017051000011>.
13. Barros MBA, Lima MG, Azevedo RCS, Paula LB, Lopes CS, Menezes PR et al. Depressão e comportamentos de saúde em adultos brasileiros – PNS 2013. *Rev Saude Publica*. 2017;51 Supl 1:8s. <https://doi.org/10.1590/S1518-8787.2017051000084>.
14. Assunção AA, Abreu MNS. Fatores associados a distúrbios osteomusculares relacionados ao trabalho autorreferidos em adultos brasileiros. *Rev Saude Publica*. 2017;51 Supl 1:10s. <https://doi.org/10.1590/S1518-8787.2017051000282>.
15. Szwarcwald CL, Montilla DER, Marques AP, Damacena GN, Almeida WS, Malta DC. Desigualdades na esperança de vida saudável por Unidades da Federação. *Rev Saude Publica*. 2017;51 Supl 1:7s. <https://doi.org/10.1590/S1518-8787.2017051000105>
16. Lima-Costa MF, Peixoto SV, Malta DC, Szwarcwald CL, Mambrini JVM. Cuidado informal e remunerado aos idosos no Brasil (Pesquisa Nacional de Saúde 2013). *Rev Saude Publica*. 2017;51 Supl 1:6s. <https://doi.org/10.1590/S1518-8787.2017051000013>.
17. Jaime PC, Prado RR, Malta DC. Influência familiar no consumo de bebidas açucaradas em crianças menores de dois anos. *Rev Saude Publica*. 2017;51 Supl 1:13s. <https://doi.org/10.1590/S1518-8787.2017051000038>.
18. Bernal RTI, Malta DC, Claro RM, Monteiro CA. Efeito da inclusão de entrevistas por telefone celular no Vigitel. *Rev Saude Publica*. 2017;51 Supl 1:15s. <https://doi.org/10.1590/S1518-8787.2017051000171>.
19. Malta DC, Bernal RTI, Andrade SSCA, Silva MMA, Velasquez-Melendez G. Prevalência e fatores associados à hipertensão arterial autorreferida em adultos brasileiros. *Rev Saude Publica*. 2017;51 Supl 1:11s. <https://doi.org/10.1590/S1518-8787.2017051000006>.
20. Organização das Nações Unidas no Brasil. Objetivos de Desenvolvimento Sustentável (ODS): Brasília (DF); 2015 [cited 5 Jan 2016]. Available from: <https://nacoesunidas.org/pos2015/ods3/>
21. Bonita R, Courten M, Dwyer T, Jamrozik K, Winkelmann R. Surveillance of risk factors for noncommunicable diseases: The WHO STEPwise approach apud World Health Organization, Noncommunicable Diseases and Mental Health. Surveillance of risk factors for noncommunicable diseases. The WHO STEPwise approach: summary. Geneva: WHO; 2001. p.1.

22. Malta DC, Morais Neto OL, Silva Junior JB. Apresentação do plano de ações estratégicas para o enfrentamento das doenças crônicas não transmissíveis no Brasil, 2011 a 2022. *Epidemiol Serv Saude*. 2011;20(4):425-38. <https://doi.org/10.5123/S1679-49742011000400002>.
23. World Health Organization. Global action plan for the prevention and control of noncommunicable diseases 2013-2020. Geneva: WHO; 2013 [cited 20 Feb 2014]. Available from: http://www.who.int/nmh/events/ncd_action_plan/en/