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Research Article

# Factors associated with Primary Health Care access in Brazil: results of the 2019 National Survey of Health

## Fatores associados ao acesso à Atenção Primária no Brasil: resultados da Pesquisa Nacional de Saúde 2019

## *Factores asociados al acceso a la Atención Primaria en Brasil: resultados de la Encuesta Nacional de Salud 2019*

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## Abstract

**Introduction:** Access to health refers to the ability of individuals to use necessary services in a timely and continuous manner, being an essential component for the effectiveness of health systems, and Primary Health Care should be the individual's gateway to the health system. **Objective:** To analyze the factors associated with access to Primary Health Care in Brazil. **Methods:** Study with data from the 2019 National Survey of Health, carried out in Brazil. The sample consisted of 7,471 individuals. Individual sociodemographic aspects were investigated in a descriptive and multivariate analysis using Poisson Regression, considering a 5% significance level. **Results**: Among Brazilians who sought health care, 37% (95% confidence interval [CI] 35.6–38.4) sought the health centers of the Brazilian Unified Health System. Among those who sought this service, the prevalence of access was 72.4% (95%CI 70.3–74.4). Access to Primary Health Care was associated with self-rated health classified as fair, poor or very poor (prevalence ratio [PR]=1.13; 95%CI 1.07–1.18), with being illiterate (PR=1.21; 95%CI 1.10–1.33), living in rural areas (PR=1.09; 95%CI 1.06–1.13), race or skin color (Asian: PR=1.19; 95%CI 1.00–1.41; Indigenous: PR=1.21; 95%CI 1.08–1.36), and the household being registered with the Family Health Strategy (PR=1.16; 95%CI 1.08–1.25). There was a lower prevalence of access to Primary Health Care among those diagnosed with chronic diseases (PR=0.80; 95%CI 0.07–0.84) and who made moderate use (PR=0.88; 95%CI 0.83–0.94) or excessive use (PR=0.88; 95%CI 0.83–0.94) of alcohol. **Conclusions:** Therefore, it is necessary to implement strategies and public policies to improve access to the public who report chronic illnesses and alcohol consumption.

**Keywords:** Primary health care; Health services accessibility; Health surveys.

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## Resumo

**Introdução:** Acesso à saúde refere-se à capacidade dos indivíduos de utilizarem os serviços necessários de maneira oportuna e contínua, sendo um componente essencial para a efetividade dos sistemas de saúde, e a APS deve ser o primeiro ponto de contato do indivíduo com o sistema de saúde. **Objetivo:** Analisar os fatores associados ao acesso à Atenção Primária à Saúde (APS) no Brasil. **Métodos:** Estudo com os dados da Pesquisa Nacional de Saúde 2019, realizada no Brasil. A amostra foi composta por participantes 7.471 indivíduos. Aspectos sociodemográficos individuais foram explorados em uma análise descritiva e multivariada utilizando a Regressão de Poisson, considerando nível de significância de 5%. **Resultados:** entre os brasileiros que buscaram atendimento de saúde, 37% (IC95% 35,6–38,4) optaram pelas unidades básicas do Sistema Único de Saúde (SUS). Entre os que procuraram este serviço, a prevalência do acesso foi de 72,4% (IC95% 70,3–74,4). O acesso à APS foi associado a autoavaliação do estado de saúde como regular, ruim ou muito ruim (RP=1,13; IC95% 1,07–1,18), não ter instrução (RP=1,21; IC95% 1,10–1,33) e viver na zona rural (RP=1,09; IC95% 1,06–1,13), cor da pele/raça (Amarelos: RP=1,19; IC95% 1,00–1,41; Indígenas: RP=1,21; IC95% 1,08–1,36) e domicílio estar cadastrado na Estratégia Saúde da Família (ESF) (RP=1,16; IC95% 1,08–1,25). Houve menor prevalência do acesso à APS entre os que possuem diagnóstico de doenças crônicas (RP=0,80; IC95% 0,07–0,84) e fazem uso moderado (RP=0,88; IC95% 0,83–0,94) ou excessivo de álcool (RP=0,88: IC95% 0,83–0,94). **Conclusões:** Assim, faz-se necessária a implementação de estratégias e políticas públicas para melhorar o acesso ao público que refere doenças crônicas e faz uso de álcool.


**Palavras-chave:** Atenção primária à saúde; Acessibilidade aos serviços de saúde; Inquéritos epidemiológicos.


## Resumen

**Introducción:** El acceso a la salud se refiere a la capacidad de los individuos de utilizar los servicios necesarios de manera oportuna y continua, siendo un componente esencial para la eficacia de los sistemas de salud, y la APS debe ser el primer punto de contacto del individuo con el sistema de salud. **Objetivo:** Analizar los factores asociados al acceso a la atención primaria de salud en Brasil. **Métodos:** Estudio con datos de la Encuesta Nacional de Salud 2019 realizada en Brasil. La muestra estuvo compuesta por participantes 7.471 individuos. Los aspectos sociodemográficos individuales fueron explorados en un análisis descriptivo y multivariado utilizando Regresión de Poisson, considerando un nivel de significación del 5%. **Resultados:** Entre los brasileños que buscaron atención en salud, 37% (IC95% 35,6–38,4) buscaron las unidades básicas del Sistema Único de Salud. Entre quienes buscaron este servicio, la prevalencia de acceso fue del 72,4% (IC95% 70,3–74,4). El acceso a la atención primaria de salud se asoció con la autoevaluación del estado de salud como regular, mala o muy mala (RP=1,13; IC95% 1,07–1,18), con no tener educación (RP=1,21; IC95% 1,10–1,33) y vivir en zona rural (RP=1.09; IC95% 1.06–1.13), raza o color de piel (Amarillo: PR=1,19; IC95% 1,00–1,41; Indígena: PR=1.21; IC95% 1,08–1,36) y el hogar está registrado en la ESF (RP=1,16; IC95% 1,08–1,25). Hubo menor prevalencia de acceso a la APS entre los diagnosticados con enfermedades crónicas (RP=0,80; IC95% 0,07–0,84) y consumo moderado de alcohol (RP=0,88; IC95% 0,83–0,94) o consumo excesivo de alcohol (RP=0,88; IC95% 0,83–0,94). **Conclusiones:** Por lo tanto, es necesario implementar estrategias y políticas públicas para mejorar el acceso al público que reporta enfermedades crónicas y consume alcohol.


**Palabras clave:** Atención primaria de salud; Acceso a los servicios de salud; Encuestas epidemiológicas.

# INTRODUCTION

The use of health services denotes the operating center of health systems. The concept of use of these services concerns all contact that occurs directly, such as hospitalizations and medical appointments, and indirectly, such as carrying out preventive exams and diagnoses made in health services. The use of health services results from the interaction of the individual seeking care and the health professional who provides this care within the system. The individual is responsible for the first contact by seeking the service, and the professionals are responsible for the contact that will be established.[1]

Access is defined as "opportunity to reach and obtain adequate health services in situations of perceived need for care."[2] In order to have access to health care, a potential patient must first be able to identify a need and be aware of possible health care options. To ensure access, health care should be provided in a way that motivates and empowers patients to engage with the health system in a participatory manner.[3]

Access to health services is an important determinant for screening and care, maintenance of care, and reduction of morbidity and mortality.[4] The provision of care is required for access, but it is not enough. Historically, access to health services should exist if services were available. There is a distinction between

initiation and continuation in the use of the service and, in this scenario, there are barriers to access, including financial, psychological, informational, social, organizational, spatial, and temporal factors. Although access can be measured considering the use related to the need, users and professionals evaluate it differently.[5]

The 1978 Alma-Ata Conference has prominently defined the scenario for health policy reforms worldwide — defending the provision of care based on Primary Health Care (PHC) as an approach to improve health and well-being.[6] According to the World Health Organization (WHO),[7] PHC is defined as "essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination." Thus, PHC is deemed useful, as it addresses inequalities in health and health care through the provision of basic but comprehensive and accessible health services.

For Barbara Starfield,[8] the concept of access to health refers to the ability of individuals to use the necessary services in a timely and continuous manner, being an essential component for the effectiveness of health systems. From the perspective of PHC, Starfield points out that this should be the individual's gateway to the health system, characterized by the continuity, integrality, and coordination of care — and that access is simultaneously related to four elements: availability, accessibility, acceptability, and quality.

Nevertheless, according to the trend of access to health care in low- and middle-income countries, great inequalities persist.[6] In Brazil, the National Policy of Primary Care (2017) presents in its principles of universality that primary health care "enables universal and continuous access to quality and problem-solving health services, characterized as the open and preferential gateway to the Health Care Network (first contact), welcoming people and promoting the attachment and co-responsibility for the care to their health needs".[9]

From the understanding that PHC is the gateway to the Brazilian Unified Health System (SUS), it is understood that this should be problem-solving and promote integral access according to the user's demands. Thus, in the present study, we aim to analyze the factors associated with access to Primary Health Care in Brazil.

## METHODS

This is an exploratory study based on data from the 2019 National Survey of Health (*Pesquisa Nacional de Saúde* – PNS), which is a population-based household survey whose main objective is to know the determinants, conditioning factors, and health needs of the Brazilian population, aiming at providing a representative database of the country and the population living in private households, sufficiently capable of contributing to the formulation and adequacy of public health policies in Brazil.[10]

The PNS uses the master sample of the Integrated System of Household Surveys (*Sistema Integrado de Pesquisas Domiciliares* – SIPD), as it allows greater territorial coverage. The sampling plan used was cluster sampling in three stages. The Primary Sampling Units (*Unidades Primárias de Amostragem* – UPA), composed of census tracts, are the first stage; the private households selected in each UPA are the second stage; and the third stage is the selection of a resident aged 15 years or over in each household. In total, 108,457 households were selected, 100,541 of which were inhabited. 94,114 home interviews were conducted.

The sample of this study was composed of people aged 15 years or older who were selected to answer the survey and who, in the two weeks prior to the survey, sought care in Health Centers (*Unidades Básicas de Saúde* – UBS). For the selection of the sample, the answer to the question "*In the last two weeks, where did you first seek care for this reason?"* was considered. Thus, the sample was composed of 7,471 individuals.

In this research, the dependent variable, or primary study outcome, was called "Access to Primary Health Care." The outcome indicates access or not to service at the UBS, either because care was provided when seeking care for the first time, or because care was provided when seeking care later, in the two weeks prior to the research.

For developing the dependent variable, the questions that grounded the composition of this variable are related to the availability of health services and the use of these services. The questions were: "*When seeking care for the first time, in the last two weeks, were you provided care?*". The outcome was deemed present for individuals who answered "yes" to this question. In addition, the question "*In the last two weeks, where did you last seek care for this reason?*" was considered, and those who answered they sought the UBS were considered; for these individuals, the question "*When seeking care for the last time, in the last two weeks, were you provided care?*" was analyzed. The outcome was deemed present for individuals who answered "yes" to the latter question about access/use of SUS health services (UBS).

Among the individual sociodemographic variables, predisposing individual factors were considered, namely: sex (men or women), age (15–29 years, 30–59 years, 60 years or over), skin color/race (white, Black — including Black and mixed-race people —, Indigenous or Asian), level of education (illiterate, elementary school, high school, or college degree), per capita household income (up to one minimum wage, between one and three minimum wages, more than three minimum wages), employment status (employed or unemployed), and marital status (single, divorced, or widowed).

The individual factors selected were the area of residence (urban or rural) and household registered with the Family Health Strategy (FHS) (yes, no, or do not know). The following were considered as individual need factors: self-rated health (very good/good; fair/poor/very poor); diagnosis of a chronic, physical, or mental illness, or long-term illness (yes; no); multimorbidity — diagnosis of two or more chronic, physical, or mental illnesses, or long-term illness — (yes; no); use of tobacco and its derivatives (smoker: currently smokes some tobacco product; ex-smoker: smoked some tobacco product in the past; has never smoked); alcohol use (excessive use: five or more daily doses on at least one occasion in the last 30 days, considering the standard dose of 50 mL; moderate use: habitual use regardless of the dose consumed in the last 30 days, but less than excessive use; does not use it); Body Mass Index (BMI) (weight in kg/height$^2$ — malnutrition, normal weight, overweight, and obesity); and weekly practice of 150 minutes or more of physical activity (yes; no). All independent variables were collected in the PNS own database.

As it is a study with complex sampling, the weight of the sample was used and the effect of the sample design was incorporated. The prevalence of the outcome was calculated in relation to the independent variables, presenting the respective 95% confidence intervals (95%CI). Subsequently, Poisson Regression analysis was carried out to estimate the crude prevalence ratio (PR) and the respective 95%CI.

Independent variables that presented $p \leq 0.200$ in the simple regression were included in the multiple Poisson regression model in order to estimate the adjusted PR. The variables were entered in the multivariate model according to the increasing order of the p-value. Only the variables that presented statistical significance remained in the final model ($p<0.05$). The variables "sex" and "age group" remained

in the final model as adjustment variables. All analyses were performed using Stata software version 13 (Stata Corp., College Station, United States).

The 2019 National Survey of Health project met the requirements for conducting research with human beings in the country, and was approved by the National Commission of Ethics in Research (*Comissão Nacional de Ética em Pesquisa* – Conep) of the National Health Council (*Conselho Nacional de Saúde* – CNS) of the Ministry of Health under Opinion No. 3.529.376, of August 23, 2019. The results of the research are public domain and are available on the website of the Brazilian Institute of Geography and Statistics (IBGE).

## RESULTS

In the two weeks prior to the 2019 PNS, 21.6% (95%CI 21.1–22.2) of the Brazilian population aged 15 years or over sought some facility, service, or health professional for care related to their own health. Among those who sought a health service, 37% (95%CI 35.6–38.4) sought care at a SUS UBS. Among the individual characteristics of those who sought this service are: women (66.4%), age from 30 to 59 years (69%), Black individuals (61%), elementary school level of education (48%), per capita income of up to one minimum wage (66.4%), employed people (89%), who lived in the urban area (84.6%), whose household was registered with the FHS (74.2%), who were diagnosed with some chronic disease (74.4%), did not use alcohol (69%), who had never smoked (55.3%), and who exercised less than 150 minutes a week (88%) (Table 1).

Among those who sought the UBS, 72.4% (95%CI 70.3–74.4) were provided care. According to the descriptive analysis of access to PHC, the prevalence of this outcome was higher among people aged 60 years or over; Asian; illiterate people; who have a per capita income of up to one minimum wage; who live in rural areas; whose household is registered with the FHS; whose self-rate health is fair, poor or very poor; who do not have a diagnosis of chronic diseases, do not use alcohol, have never smoked, and who are malnourished (Table 1).

In the bivariate analysis, having the household registered with the FHS (PR=1.19; 95%CI 1.11–1.28 ); living in rural areas (PR=1.14; 95%CI 1.10–1.18); having a per capita income of up to one minimum wage (PR=1.28; 95%CI 1.02–1.34); being illiterate (PR=1.32; 95%CI 1.20–1.45); fair, poor or very poor self-rated health (PR=1.11; 95%CI 1.06–1.17); and Asian ethnicity (PR=1.21; 95%CI 1.02–1.44) were associated with greater prevalence of the outcome. Conversely, having a diagnosis of chronic diseases (PR=0.85; 95%CI 0.81–0.88), moderate use (PR=0.85; 95%CI 0.80–0.92) and excessive use (PR=0.90; 95%CI 0.83–0.97) of alcohol were associated with lower prevalence of access to Primary Health Care (Table 2).

In the final multivariate analysis model, the prevalence of access to Primary Health Care was associated with level of education (high school: PR=1.15; 95%CI 1.05–1.25; elementary school: PR=1.16; 95%CI 1.06–1.26; illiterate: PR=1.21; 95%CI 1.10–1.33); self-rated health (fair, poor, or very poor:) PR=1.13; 95%CI 1.07–1.18); living in rural areas (PR=1.09; 95%CI 1.06–1.13); race or skin color (Asian: PR=1.19; 95%CI 1.00–1.41; Indigenous: PR=1.21; 95%CI 1.08–1.36); and household registered with the FHS (PR=1.16; 95%CI 1.08–1.25). In turn, there was a lower prevalence of access to PHC among those diagnosed with chronic diseases (PR=0.80; 95%CI 0.07-0.84) and who made moderate use (PR=0.88; 95%CI 0.83–0.94) or excessive use (PR=0.88; 95%CI 0.83–0.94) of alcohol (Table 2).

**Table 1.** Descriptive analysis of the sample and prevalence of access to Primary Health Care according to sociodemographic variables, lifestyle and health conditions of the Brazilian population. National Survey of Health, 2019.

| Variables | Descriptive | | Access to PHC | |
|---|---|---|---|---|
| | Proportion | 95%CI | Prevalence | 95%CI |
| | | | 72.40 | 70.3–74.4 |
| Sex | | | | |
| Men | 33.60 | 31.5–35.7 | 72.80 | 68.7–76.5 |
| Women | 66.40 | 64.3–68.5 | 72.20 | 69.8–74.5 |
| Age (years) | | | | |
| 15–29 | 20.30 | 18.3–22.5 | 72.20 | 66.3–77.5 |
| 30–59 | 52.10 | 49.9–54.2 | 71.90 | 69.1–74.5 |
| 60 or over | 27.60 | 25.9–29.4 | 73.50 | 69.9–76.8 |
| Race or skin color | | | | |
| White | 37.70 | 35.7–39.7 | 69.40 | 66–72.6 |
| Black (Black and mixed-race) | 61 | 58.9–63 | 74.10 | 71.3–76.7 |
| Asian | 0.70 | 0.4–1.4 | 84.30 | 61.9–94.7 |
| Indigenous | 0.60 | 0.4–0.9 | 78.40 | 63.3–88.4 |
| Level of education | | | | |
| College degree | 11 | 9.6–12.6 | 59.70 | 52.3–66.7 |
| High school | 32.40 | 30.5–34.5 | 71.50 | 67.8–74.9 |
| Elementary school | 48 | 46–50.1 | 74.70 | 71.7–77.5 |
| Illiterate | 8.50 | 7.6–9.5 | 79.30 | 74.7–83.2 |
| Per capita income (minimum wage) | | | | |
| Up to one | 66.40 | 64.2–68.4 | 74.90 | 72.4–77.3 |
| From one to three | 30.40 | 28.5–32.5 | 68.40 | 64.3–72.1 |
| More than three | 3.10 | 2.6–3.8 | 58.10 | 48.3–67.4 |
| Marital status | | | | |
| Single | 41.60 | 39.5–43.8 | 72.80 | 69.5–75.9 |
| Married | 41.60 | 39.3–43.6 | 71.70 | 68.5–74.7 |
| Divorced | 8.30 | 7.3–9.4 | 71.50 | 65–77.2 |
| Widowed | 8.70 | 7.7–9.7 | 74.70 | 67.6–80.7 |
| Employment status | | | | |
| Employed | 89 | 87–90.7 | 68.40 | 65.4–71.3 |
| Unemployed | 11 | 9.3–13 | 76.40 | 69–82.4 |
| Area of residence | | | | |
| Rural | 15.40 | 14.3–16.5 | 80.90 | 78–83.5 |
| Urban | 84.60 | 83.5–85.7 | 70.90 | 68.4–73.2 |
| Registered with FHS | | | | |
| Yes | 74.20 | 72–76.3 | 74.90 | 72.5–77.2 |
| No | 18.50 | 16.6–20.5 | 62.70 | 57.1–68 |
| Do not know | 7.30 | 6.2–8.6 | 71 | 64.1–77.1 |
| Self-rated health | | | | |
| Very good – Good | 45.50 | 43.4–47.5 | 68.10 | 64.8–71.2 |
| Fair – Poor – Very poor | 54.50 | 52.5–56.6 | 76 | 73.7–78.6 |

Continue...

**Table 1.** Continuation.

| Variables | Descriptive | | Access to PHC | |
|---|---|---|---|---|
| | Proportion | 95%CI | Prevalence | 95%CI |
| Presence of NCDs | | | | |
| No | 25.60 | 23.7–27.6 | 81.50 | 78.3–84.3 |
| Yes | 74.40 | 72.4–76.3 | 69.40 | 66.9–71.9 |
| Presence of multimorbidity | | | | |
| No | 54.80 | 52.6–57 | 73.80 | 70.8–76.6 |
| Yes | 45.20 | 43–47.4 | 71 | 67.8–74.1 |
| Use of alcohol | | | | |
| Do not use it | 69 | 66.7–71.2 | 75.20 | 73–77.3 |
| Moderate use | 19.80 | 18–21.7 | 65.10 | 59.3–70.4 |
| Excessive use | 11.20 | 9.8–12.9 | 67.90 | 59.7–75.1 |
| Smoking habit | | | | |
| Have never smoked | 55.30 | 53.1–57.5 | 72.80 | 70.2–75.2 |
| Ex-smoker | 30.70 | 28.8–32.6 | 70.80 | 66.8–74.5 |
| Smoker | 14 | 12.4–15.8 | 74.40 | 67.3–80.3 |
| BMI | | | | |
| Malnutrition | 2.60 | 1.9–3.5 | 80.10 | 71.6–86.6 |
| Normal weight | 35.50 | 33.5–37.8 | 73 | 69.4–76.2 |
| Overweight | 35.80 | 33.7–37.8 | 71.10 | 67.4–74.5 |
| Obesity | 26.10 | 24.2–28 | 71.60 | 67.1–75.7 |
| Physical activity | | | | |
| No | 88 | 84.4–90.8 | 73.4 | 70.2–76.4 |
| Yes | 12 | 9.2–15.6 | 71.5 | 55–83.8 |

PHC: Primary Health Care; 95%CI: 95% confidence interval; FHS: Family Health Strategy; NCDs: Noncommunicable Diseases; BMI: Body Mass Index.

## DISCUSSION

Among the individuals who sought care in Health Centers, 72.4% had access to it. This prevalence is a finding similar to that of other Brazilian studies[9,12] and may be justified by the increase in access and use of SUS services throughout the country, but it is still necessary to highlight important regional differences.[13]

Researchers compared the 2003 and 2008 editions of the National Household Sample Survey and the 2013 National Survey of Health and found that the Brazilian population is increasingly using the services, and that the participation of SUS increased in the richest regions of the country.[13]

Although PHC is the gateway to the system and has the potential to meet most of the demands it receives, in this study we showed that 32% of the individuals sought PHC, which demonstrates that people have mostly sought other services.

We believe that, for universal access to these services, some obstacles must be overcome. The expansion of the provision of services and professionals linked to the SUS; the possibilities of access by flows of care organized by epidemiological, health, and social demands; and changes in the patterns of use are among the main factors. Conversely, it is worth highlighting the historical challenges, among which are striking regional inequalities and underfinancing.[14]

**Table 2.** Crude and adjusted prevalence ratios between the outcome and sociodemographic variables, lifestyle and health conditions of the Brazilian population. National Survey of Health, 2019.

| Variables | Simple regression | | | Multiple regression | | |
|---|---|---|---|---|---|---|
| | PR | 95%CI | p-value | PR | 95%CI | p-value |
| Sex | | | | | | |
| Men | 1 | | | 1 | | |
| Women | 0.99 | 0.94–1.03 | 0.749 | 0.99 | 0.94–1.03 | 0.657 |
| Age (years) | | | | | | |
| 15–29 | 1 | | | 1 | | |
| 30–59 | 0.99 | 0.93–1.06 | 0.890 | 1.01 | 0.95–1.8 | 0.587 |
| 60 or over | 1.01 | 0.95–1.08 | 0.621 | 1.06 | 0.98–1.14 | 0.114 |
| Race or skin color | | | | | | |
| White | 1 | | | | | |
| Black (Black and mixed-race) | 1.06 | 1.02–1.11 | 0.003 | 1.02 | 0.98–1.07 | 0.177 |
| Asian | 1.21 | 1.02–1.44 | 0.026 | 1.19 | 1–1.41 | 0.040 |
| Indigenous | 1.12 | 0.98–1.29 | 0.074 | 1.21 | 1.08–1.36 | 0.001 |
| Level of education | | | | | | |
| College degree | 1 | | | 1 | | |
| High school | 1.19 | 1.08–1.31 | <0.005 | 1.15 | 1.05–1.25 | 0.002 |
| Elementary school | 1.25 | 1.14–1.36 | <0.005 | 1.16 | 1.06–1.26 | 0.001 |
| Illiterate | 1.32 | 1.20–1.45 | <0.005 | 1.21 | 1.10–1.33 | <0.005 |
| Per capita income (minimum wage) | | | | | | |
| Up to one | 1.28 | 1.02–1.34 | 0.018 | | | |
| From one to three | 1.17 | 1.13–1.46 | <0.005 | | | |
| More than three | 1 | | | | | |
| Marital status | | | | | | |
| Single | 1 | | | | | |
| Married | 0.98 | 0.93–1.03 | 0.534 | | | |
| Divorced | 0.98 | 0.90–1.06 | 0.662 | | | |
| Widowed | 1.02 | 0.94–1.11 | 0.550 | | | |
| Employment status | | | | | | |
| Employed | 1 | | | | | |
| Unemployed | 1.11 | 1.02–1.21 | 0.010 | | | |
| Area of residence | | | | | | |
| Rural | 1.14 | 1.10–1.18 | <0.005 | 1.09 | 1.06–1.13 | <0.005 |
| Urban | 1 | | | 1 | | |
| Registered with FHS | | | | | | |
| Yes | 1.19 | 1.11–1.28 | <0.005 | 1.16 | 1.08–1.25 | <0.005 |
| No | 1 | | | 1 | | |
| Do not know | 1.13 | 1.00–1.27 | 0.036 | 1.14 | 1.03–1.27 | 0.009 |
| Self-rated health | | | | | | |
| Very good – Good | 1 | | | 1 | | |
| Fair – Poor – Very poor | 1.11 | 1.06–1.17 | <0.005 | 1.13 | 1.07–1.18 | <0.005 |

Continue...

**Table 2.** Continuation.

| Variables | Simple regression | | | Multiple regression | | |
|---|---|---|---|---|---|---|
| | PR | 95%CI | p-value | PR | 95%CI | p-value |
| Presence of NCDs | | | | | | |
| No | 1 | | | 1 | | |
| Yes | 0.85 | 0.81–0.88 | <0.005 | 0.80 | 0.76–0.84 | <0.005 |
| Presence of multimorbidity | | | | | | |
| No | 1 | | | | | |
| Yes | 0.96 | 0.92–1 | 0.077 | | | |
| Use of alcohol | | | | | | |
| Do not use it | 1 | | | 1 | | |
| Moderate use | 0.85 | 0.80–0.92 | <0.005 | 0.88 | 0.83-0.94 | <0.005 |
| Excessive use | 0.90 | 0.83–0.97 | 0.006 | 0.88 | 0.81-0.94 | 0.001 |
| Smoking habit | | | | | | |
| Have never smoked | 1 | | | | | |
| Ex-smoker | 0.97 | 0.92–1.02 | 0.254 | | | |
| Smoker | 1.02 | 0.96–1.08 | 0.497 | | | |
| BMI | | | | | | |
| Malnutrition | 1.09 | 0.96–1.24 | 0.143 | | | |
| Normal weight | 1 | | | | | |
| Overweight | 0.97 | 0.92–1.02 | 0.351 | | | |
| Obesity | 0.98 | 0.92–1.03 | 0.497 | | | |
| Physical activity | | | | | | |
| No | 1.02 | 0.94–1.11 | 0.548 | | | |
| Yes | 1 | | | | | |

PR: Prevalence Ratio; 95%CI: 95% confidence interval; FHS: Family Health Strategy; NCDs: Noncommunicable Diseases; BMI: Body Mass Index.

Access was associated with the household registration with the FHS, whose coverage has expanded throughout Brazil in recent decades, especially in the less developed regions of the country.[15,16] With the action of the FHS, the problem-solving capacity of health care increases, and the recovery of health conditions improves through initiatives aimed at health promotion and disease prevention.[15-17]

Malta et al.[15] found that more than half of the Brazilian population reported being registered with the Family Health Units, and that almost two thirds of the population living in rural areas are also registered, which may be associated with a higher prevalence of access among people living in rural areas. In addition, the aforementioned authors[15] evaluated the indicator of home visits and pointed out that regular and monthly visits of Community Health Agents (CHA) and other professionals of the Family Health Team are more frequent among the population with low levels of education, evidencing the prioritization of more vulnerable populations. This may justify our finding that the lower the level of education, the higher the prevalence of access. Furthermore, people with higher education tend to recognize a health need more easily and seek care.[1]

Another important finding is that people whose self-rated health was fair, poor, or very poor had a higher prevalence of access. When comparing the data from the 2013 and 2019 editions of the National Survey of Health, it is verified that, in addition to a greater demand in health care, there is a worsening of the general perception of health by the Brazilian population.[17] Poor self-rated health may be related to the

presence of morbidities, weaknesses, and other health conditions, and may determine the greatest need to seek services to solve these problems.[18]

People who reported to be Asian (individuals of Eastern origin) and Indigenous also consisted in another aspect that presented higher prevalence of access. Accordingly, Santos et al.[19] found that access to SUS services was facilitated by health professionals, and that most of the Indigenous people were satisfied with the provided care.

The health of Indigenous peoples became relevant in Brazil with the implementation of the National Policy on Indigenous Health Care (*Política Nacional de Atenção à Saúde dos Povos Indígenas* – PNASPI) in 1999. Since then, several measures have been taken to ensure that Indigenous peoples have full access to health according to the principles of SUS and in such a way to respect the diversity of each people. Although real gains in the health scenario of Indigenous peoples in the country are verified, many difficulties are still encountered for health care.[20]

In the present study, we observed that the lowest prevalence of access to PHC is among those who reported having a diagnosis of chronic diseases. Although the presence of chronic disease means the greater use of health services, access to PHC can be impaired due to factors such as higher frequency of restriction of activities[21] and, still, difficulties arising from the lack of connection with the family health team and the lack of accountability by users in the face of network barriers.[22]

The care model of chronic conditions prioritizes the stabilization of chronic diseases to contain their evolutionary risk. To this end, people should be proactive to become agents of the social production of their own health, relying on the support of the health team and its social protection network.[23]

The lower prevalence of access to PHC was also identified among those who make moderate or excessive use of alcohol. People who consume alcoholic beverages, especially those who made excessive use in the long term, may present general physical health problems, severe psychological and psychosocial suffering, and interpersonal issues[24] that may compromise the search for PHC services.

The study presents some limitations that should be considered. We point out information bias, which may interfere with the estimation of the prevalence of access. Data regarding access may be subject to memory bias of the respondent resident.

As these are data from a health survey that is based on a significant portion of the Brazilian population and on how this sample was distributed, this study greatly contributes to identifying some health needs and prevalence of specific problems — such as the individual factors associated with access to PHC. According to the study results, we suggest the need for public policies that address these inequalities, including people who report chronic diseases and make use of alcohol.

## CONFLICT OF INTERESTS

Nothing to declare.

## AUTHORS' CONTRIBUTIONS

TAS: Formal analysis, Conceptualization, Methodology, Writing – original draft, Writing – review & editing. AAM: Formal analysis, Conceptualization, Methodology, Writing – original draft, Writing – review & editing. MFSA: Formal analysis, Conceptualization, Methodology, Writing – original draft. IRB: Project administration, Conceptualization, Supervision, Validation, Writing – review & editing.

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