

# Prevalence of self-reported depression in Brazil: 2013 National Health Survey results

## *Prevalência do autorrelato de depressão no Brasil: resultados da Pesquisa Nacional de Saúde, 2013*

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**ABSTRACT:** *Objective:* To describe the prevalence of self-reported previous medical diagnosis of depression in the adult (18 years or older), Brazilian population according to sociodemographic factors. *Methods:* Data from the 2013 National Health Survey, a population-based survey, were used. The self-reported previous medical diagnosis of depression, received at some point during the patient's life, was investigated. Prevalence and their respective confidence intervals of 95% (CI 95%) were calculated, stratified by gender, age group, education level, race/skin color, for Brazil, place of residence, major regions, federative units and capitals. *Results:* The prevalence of self-reported diagnosis of depression in adults in Brazil was of 7.6% (95%CI 7.2 – 8.1), being higher in women (10.9%; 95%CI 10.3 – 11.6) and among people between 60 and 64 years old (11.1%; 95%CI 9.1 – 13.1). Furthermore, the highest prevalence was among individuals with no formal education or those with incomplete primary education 8.6% (95%CI 7.9 – 9.3), for those with complete tertiary education 8.7% (95%CI 7.5 – 9.9); and for those who declared themselves as white (9.0%; 95%CI 8.3 – 9.6). For place of residence, the self-report was higher in individuals living in urban areas (8.0%; 95%CI 7.5 – 8.4) and in the South (12.6%; 95%CI 11.2 – 13.9). *Conclusion:* The analysis shows the importance of understanding the access to the diagnosis of depression in Brazil. It is necessary to improve access to quality health services throughout the country to include the underprivileged population. Reducing disparities in access to health services is crucial to ensuring that social rights are universal and equal.

**Keywords:** Depression. Self report. Diagnosis. Epidemiologic surveys. Health inequalities. Epidemiological surveillance.

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**RESUMO:** *Objetivo:* Descrever a prevalência do autorrelato de diagnóstico médico prévio de depressão na população adulta brasileira (18 anos ou mais) segundo fatores sociodemográficos. *Métodos:* Foram utilizados dados da Pesquisa Nacional de Saúde 2013, inquérito de base populacional. Foi investigado o autorrelato do diagnóstico médico prévio de depressão, recebido em algum momento da vida. Foram calculadas as prevalências e seus respectivos intervalos de confiança de 95% (IC95%), estratificados por sexo, faixa etária, escolaridade, raça/cor da pele, para Brasil, local de residência, grandes regiões, unidades federativas e capitais. *Resultados:* A prevalência de autorrelato de diagnóstico de depressão em adultos no Brasil foi de 7,6% (IC95% 7,2 – 8,1), sendo maior em mulheres (10,9%; IC95% 10,3 – 11,6) e em pessoas entre 60 e 64 anos (11,1%; IC95% 9,1 – 13,1). Ainda, as maiores prevalências foram em indivíduos sem instrução ou com fundamental incompleto, 8,6% (IC95% 7,9 – 9,3), para aqueles com ensino superior completo, 8,7% (IC95% 7,5 – 9,9); e para aqueles que se autodeclararam brancos (9,0%; IC95% 8,3 – 9,6). Por local de residência, esse autorrelato foi maior em indivíduos residentes na região urbana (8,0%; IC95% 7,5 – 8,4) e na região Sul (12,6%; IC95% 11,2 – 13,9). *Conclusão:* A análise deste estudo revela a importância de conhecer o acesso ao diagnóstico de depressão no Brasil. É necessário aprimorar o acesso aos serviços de saúde com qualidade em todo o território nacional para abranger as populações mais desfavorecidas. Reduzir as disparidades no acesso aos serviços de saúde é fundamental para garantir que direitos sociais sejam equânimes e universais.

*Palavras-chave:* Depressão. Autorrelato. Diagnóstico. Inquéritos epidemiológicos. Desigualdades em saúde. Vigilância epidemiológica.

## INTRODUCTION

Depression is recognized as a public health issue and is evidenced through the impairment of an individual's abilities to perform daily activities, especially in social terms<sup>1</sup>. There are various approaches within the study of depression, since it can result from genetic, psychological, familial, and social factors. It is characterized as a group of disorders that are systematized as “mood disorders” by the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* and as “affective disorders” by the *International Statistical Classification of Diseases and Related Health Problems (ICD-10)*<sup>2,3</sup>.

In global terms, it is estimated that, in 2020, depression will be the second leading cause in health disabilities<sup>1,4</sup>. According to the World Health Organization<sup>5</sup>, at least 350 million people live with depression. Among the symptoms of depression, the following can be highlighted: feelings of sadness; loss and/or lack of trust; negative views of oneself and others; loss of interest in social activities, of appetite, and sleep; and in more severe cases, suicide<sup>5,6</sup>.

In Brazil, population-based studies concerning prevalence of general mental disorders and depression, in particular, are relatively scarce, despite recent initiatives such as the São Paulo Megacity Project, which has the objective of understanding the mental illnesses that affect the quality of life of the population<sup>7</sup>. This stems, mainly, from the difficulty in the use of instruments and/or scales for the diagnosis of such disorders in the population. Therefore, the use of questions regarding the previous medical diagnosis of morbidities, among them, depression, in population-based studies, can be a suitable approach to gaining knowledge regarding the access to the treatment and to providing quite useful information for health administrators<sup>8,9</sup>.

The prevalence of self-reported medical diagnosis for depression has previously been investigated in the Health Supplement of the National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios (PNAD)) in 2008<sup>10</sup>. The National Health

Survey (Pesquisa Nacional de Saúde (PNS)), conducted in 2013, sought to keep these questions about the self-reporting of a medical diagnosis of morbidities as a whole and of depression, in particular, in the survey, in such a way that allowed for its comparison with the data from the Health Supplement of the 2003 and 2008 PNAD, and to provide data for the monitoring of indicators and tendencies in the health situation<sup>11</sup>.

The objective of this study was to describe the prevalence of self-reported previous medical diagnosis of depression in the adult (18 years or older) Brazilian population according to sociodemographic factors.

## METHODS

This study utilized data from the PNS, a population-based survey, whose data were obtained through a nationwide household data collection conducted in 2013<sup>11</sup>.

The PNS sample was selected through cluster sampling in three selection stages. In the first stage, the stratification of the primary sampling units (PSUs) was conducted, consisting of census tracts or, in some cases, whole sectors and the selection was simple, random home stratum. In the second stage, for each PSU, 10 to 14 households were randomly selected. In the third stage, in each household, a resident adult (18 years or older) was selected with equal likelihood among all the adult residents of the home. The census tracts were randomly selected based on the Integrated System of Household Surveys (Sistema Integrado de Pesquisas Domiciliares (SIPD)) from the Brazilian Institute for Geography and Statistics (Instituto Brasileiro de Geografia e Estatística (IBGE)), and utilized the master sample for this system, with greater geographical spread and gain of precision for the estimations<sup>8,11</sup>.

The estimated size of the sample was, approximately, 81,000 households. Thus, 81,254 households were selected for sampling; of these, 69,994 were busy. In all, 64,348 household interviews and 60,202 individual interviews (the selected adults in the households) were conducted. The loss rate for the household interviews was 20.8%, the response rate being 91.9%. Meanwhile, the loss rate for the individual interviews was 25.9%, the response rate being 86.0%. The sample was defined considering the level of precision desired for the estimates of some interest indicators, basically the proportion of people in certain categories, which allowed the estimation of some parameters in different geographical levels: states, capitals, metropolitan areas, and the rest of the state.

Sampling weights were defined for the PSUs, for the households, and all of its residents and the weight for the chosen resident, being that the latter was calculated considering the weight for the corresponding household, the probability of selection of the resident, adjustments of no reply for the gender and the calibration for the total population per gender, and estimated age group with the weight of all the inhabitants. More details regarding the sampling process and weighting factors can be found in the publication regarding the results of the PNS<sup>11</sup>.

The data collection was done with the use of handheld microcomputers (*personal digital assistance* – PDA), programmed for critical process variables. Data collection agents, supervisors, and coordinators from IBGE were trained to understand the entire survey in detail<sup>11</sup>.

This study analyzed the PNS data that referred to the self-reported previous diagnosis of depression, analyzing the indicator: “proportion of people 18 years and older that report a diagnosis of depression by a doctor or mental health professional”. This indicator investigates if the individual has received a diagnosis for depression at some point in his or her life.

For this indicator, the prevalence and confidence intervals of 95% (95%CI) were calculated, stratified by gender, age group (18 – 29, 30 – 59, 60 – 64, 65 – 74, and 75 and older), education level (no formal education, incomplete primary education, complete primary and incomplete secondary education, complete secondary and incomplete tertiary education, and complete tertiary education), race/skin color (white, black, and mixed race), for Brazil, place of residence (urban/rural), major regions, federative units, and capitals.

Data were analyzed with the software Stata, version 11.0, through the *survey* module, which considers the effects of the sampling as complex. The PNS was approved by the National Ethics Research Committee, under number 328,159, on June 26, 2013. All individuals were consulted, informed, and agreed to participate in this study.

## RESULTS

According to the PNS, 7.6% (95%CI 7.2–8.1) of adults reported having received a previous diagnosis of depression by a doctor or mental health professional. This diagnosis was greater among women (10.9%; 95%CI 10.3–11.6) than men (3.9%; CI 95% 3.5–4.4) with a statistically significant difference. In terms of age group, the highest prevalence was found in individuals between 60 and 64 years old (11.1%; 95%CI 9.1–13.1) and the lowest, in the youngest age group, of 18 to 29-year-olds (3.9%; 95%CI 3.3–4.5), with a significant difference among these rates as well (Table 1).

As for the education level, the prevalence for people with complete secondary and incomplete tertiary education was of 6.4% (95%CI 5.8–7.0) and for those with complete tertiary education, 8.7% (95%CI 7.5–9.9), with a significant statistical difference among them (Table 1).

For race or skin color, a difference among the categories studied was also found, being higher among whites (9.0%; 95%CI 8.3–9.6) than among blacks and mixed race (Table 1).

For place of residence, the self-reporting of diagnosis of depression was higher among those who live in an urban area (8.0%; 95%CI 7.5–8.4). The Southern Region presented a higher prevalence (12.6%; 95%CI 11.2–13.9) and the lowest prevalence was in the Northern Region (3.1%; 95%CI 2.7–3.5) (Table 1).

For the federative units, the highest prevalence were in Rio Grande do Sul (13.2%; 95%CI 11.5–15.0), in Santa Catarina (12.9%; 95%CI 9.7–16.0) and in Paraná (11.7%; 95%CI 9.4–14.0); the lowest were observed in Pará (1.6%; 95%CI 1.0–2.1), Amazonas (2.7%; 95%CI 1.9–3.5), and in Amapá (3.4%; 95%CI 2.0–4.7) (Table 2). For the total of capitals, the self-reporting was 6.8% (95%CI 6.4–7.3). Florianópolis (11.3%; 95%CI 8.6–14.0), Natal (10.7%; 95%CI 8.1–13.3), and Porto Alegre (10.6%; 95%CI 8.2–12.9) were the capitals that presented the highest prevalence; and Porto Velho (1.2%; 95%CI 0.4–2.0), São Luís (2.4%; 95%CI 1.4–3.5), and Manaus (2.7%; 95%CI 1.6–3.9) presented the lowest prevalence (Table 3).

Table 1. Prevalence of self-reported previous medical diagnosis of depression in the adult ( $\geq 18$  years old), Brazilian population according to gender, age group, race/color skin, education level, place of residence, and major regions. National Health Survey, 2013.

Variables	Self-reported depression	
	n*	% (95%CI)
Gender		
Male	2,714	3.9 (3.5 – 4.4)
Female	8,465	10.9 (10.3 – 11.6)
Age group (years)		
18 – 29	1,484	3.9 (3.3 – 4.5)
30 – 59	7,177	8.8 (8.2 – 9.4)
60 – 64	937	11.1 (9.1 – 13.1)
65 – 74	1,119	9.9 (8.3 – 11.5)
75 +	462	6.9 (5.3 – 8.5)
Education level		
With no formal education and incomplete primary	4,907	8.6 (7.9 – 9.3)
Complete primary and incomplete secondary	1,578	6.9 (5.9 – 8.0)
Complete secondary and incomplete tertiary	3,071	6.4 (5.8 – 7.0)
Complete tertiary	1,623	8.7 (7.5 – 9.9)
Race/skin color		
White	6,229	9.0 (8.3 – 9.6)
Black	726	5.4 (4.4 – 6.4)
Mixed race	4,121	6.7 (6.1 – 7.3)
Place of residence		
Urban	10,048	8.0 (7.5 – 8.4)
Rural	1,131	5.6 (4.9 – 6.3)
Regions		
North	336	3.1 (2.7 – 3.5)
Northeast	1,951	5.0 (4.5 – 5.5)
Southeast	5,404	8.4 (7.6 – 9.2)
South	2,716	12.6 (11.2 – 13.9)
Midwest	772	7.2 (6.4 – 8.0)
Brazil	11,179	7.6 (7.2 – 8.1)

95%CI: 95% confidence interval; \*absolute values should be multiplied by 1,000.

Table 2. Prevalence of self-reported previous medical diagnosis of depression in the adult ( $\geq 18$  years old), Brazilian population according to federal units. Brazil, 2013.

Federative unit	Self-reported depression	
	n*	% (95%CI)
Rio Grande do Sul	1.127	13.2 (11.5 – 15.0)
Santa Catarina	650	12.9 (9.7 – 16.0)
Paraná	939	11.7 (9.4 – 14.0)
Minas Gerais	1.698	11.1 (9.0 – 13.1)
Mato Grosso do Sul	157	8.8 (7.3 – 10.4)
São Paulo	2.787	8.4 (7.3 – 9.5)
Pernambuco	465	7.2 (5.7 – 8.6)
Goiás	331	7.1 (5.7 – 8.5)
Tocantins	70	7.1 (5.2 – 8.9)
Rio Grande do Norte	166	6.9 (5.4 – 8.4)
Mato Grosso	157	6.9 (5.1 – 8.7)
Distrito Federal	128	6.2 (4.9 – 7.5)
Sergipe	95	6.2 (4.9 – 7.5)
Alagoas	140	6.2 (4.6 – 7.9)
Rio de Janeiro	766	6.0 (5.0 – 7.0)
Acre	28	5.8 (4.5 – 7.2)
Rondônia	67	5.6 (4.1 – 7.2)
Espírito Santo	153	5.5 (3.7 – 7.2)
Paraíba	133	4.8 (3.4 – 6.2)
Ceará	272	4.4 (3.3 – 5.4)
Roraima	12	4.4 (3.2 – 5.7)
Bahia	427	4.0 (2.7 – 5.3)
Piauí	87	3.9 (2.8 – 5.1)
Maranhão	165	3.8 (2.4 – 5.1)
Amapá	15	3.4 (2.0 – 4.7)
Amazonas	61	2.7 (1.9-3.5)
Pará	82	1.6 (1.0 – 2.1)

95%CI: confidence interval of 95%; \*absolute values should be multiplied by 1,000.

Table 3. Prevalence of self-reported previous medical diagnosis of depression in the adult ( $\geq 18$  years old), Brazilian population according to capitals. Brazil, 2013.

Capitals	Self-reported depression	
	n*	% (95%CI)
Florianópolis	40	11.3 (8.6 – 14.0)
Natal	68	10.7 (8.1 – 13.3)
Porto Alegre	120	10.6 (8.2 – 12.9)
Curitiba	146	10.3 (8.3 – 12.3)
Belo Horizonte	180	9.1 (7.3 – 11.0)
Campo Grande	55	9.1 (6.6 – 11.7)
Recife	104	8.7 (6.2 – 11.1)
São Paulo	756	8.4 (7.0 – 9.7)
Maceió	59	8.2 (5.6 – 10.8)
Palmas	13	7.1 (5.1 – 9.2)
Aracaju	31	6.8 (4.3 – 9.3)
Rio de Janeiro	338	6.6 (4.9 – 8.2)
Goiânia	69	6.6 (4.5 – 8.7)
Vitória	18	6.3 (4.4 – 8.2)
Brasília	128	6.2 (4.9 – 7.5)
Rio Branco	14	5.8 (4.0 – 7.5)
João Pessoa	30	5.2 (3.6 – 6.8)
Boa Vista	10	5.1 (3.4 – 6.7)
Fortaleza	85	4.5 (2.8 – 6.2)
Belém	37	3.6 (1.9 – 5.2)
Macapá	10	3.4 (1.4 – 5.4)
Salvador	75	3.3 (2.0 – 4.6)
Teresina	19	3.2 (2.1 – 4.4)
Cuiabá	13	2.9 (1.1 – 4.7)
Manaus	37	2.7 (1.6 – 3.9)
São Luís	18	2.4 (1.4 – 3.5)
Porto Velho	4	1.2 (0.4 – 2.0)

95%CI: confidence interval of 95%; \*absolute values should be multiplied by 1,000.

## DISCUSSION

Among the important findings of this study, we can point out the awareness of the prevalence of self-reported medical diagnosis for depression in Brazil, and variations in this prevalence according to education level, race or skin color, age group, place of residence, and region.

The prevalence of self-reported medical diagnosis for depression found in the Health Supplement of the PNAD in 2008 was 4.1%<sup>10</sup>. Data from the 2008 São Paulo Megacity Study, which was based on a structured interviewing instrument that generates a diagnostic according to the guidelines of the *DSM-IV*, found prevalence of depression, with reference to the last 12 months, of 9.4%<sup>12</sup>.

However, despite the PNAD, in previous editions, having presented the prevalence of depression in the country, this information was a part of a group of 11 other chronic diseases. Thus, it was not possible to obtain the data for various breakdowns, as is the case for the PNS. This is the first time that representative data are presented for the country regarding, specifically, the awareness of self-reported diagnosis of depression. In this manner, the results presented are of extreme importance to understand the profile of access to the diagnosis of depression, in addition to being a significant perspective of the use of services from the perspective of the user.

The biggest prevalence of self-reporting was found among women, a fact that is consistent with the literature<sup>13,14</sup>. This finding is because women have a higher perception of their own health, as well as their greater knowledge regarding physical symptoms and, consequently, an increased search for health services<sup>13</sup>.

Regarding the higher prevalence in the elderly, between 60 and 64 years, there are divergences between the literature and the findings, even of the previous editions of the PNAD. According to Barros et al.<sup>15</sup>, the prevalence tends to increase with age — like in the PNS — and that such prevalence remains at the same level after the age of 60 years, which is different from the findings of this study. The study from Theme-Filha et al.<sup>16</sup>, which analyzed the data from the 2003 National World Survey, also suggests that the prevalence increases with age. However, this study did not analyze elderly age groups, which makes it impossible to verify the comparison with the data from the PNS. In addition, a study conducted from 2005 to 2010 among the US adults suggested an increase of prevalence with age and a decline in the elderly age groups<sup>14</sup>.

Nevertheless, regarding the education level, other studies have indicated a relationship between the presence of depression and low education level<sup>15,17,18</sup>. Also, in the study by Barros et al.<sup>15</sup>, which compared data between the 2003 and the 2008 PNAD, it was verified that, during this period, there was an increase in the prevalence of chronic diseases (according to self-reports) and this increase mainly occurred in the segments with a lower education level, as the PNS data also suggest. However, despite the prevalence for people with no formal education to incomplete primary education having been high (8.6%), the prevalence in individuals with a high education level (complete tertiary education) was also high (8.7%). A study carried out based on the data from São Paulo Megacity concluded



that individuals with a higher education level used health services more, mainly for preventative or routine appointments<sup>19</sup>. In other words, these data, found in the PNS, can suggest that, in the higher education level, there is a higher proportion of diagnostics due to the greater search for health services. This age leads to the hypothesis that people with a higher education level are more likely to invest in their own health than people with a lower education level<sup>20</sup>.

As for race or skin color of individuals, a study that investigated the prevalence of depression for each race/ethnicity based on the National Health and Nutrition Examination Survey III (NHANES III) also presented similar findings to this study, since this prevalence was also found to be higher among whites than that among blacks<sup>21</sup>. In Brazil, the study done with data from the 2003 PNAD also found a higher prevalence of depression among whites<sup>18</sup>. Moreover, some studies emphasized that inequalities in health should be exclusively attributed to race or skin color and it is necessary to also consider the socioeconomic inequalities in different scopes<sup>22,23</sup>. However, based on the data of this study, one cannot disregard that the differences found between whites and blacks can impact the production of disparities in the access to health in Brazil.

For the place of residence, the prevalence of self-reported medical diagnosis of depression was higher in the urban area, which is consistent with the previous findings based on the analysis of the 2003 and 2008 PNAD<sup>15,18</sup>. And for the major regions of the country, the findings were also consistent with the 2003 PNAD, where the Northern and Northeastern regions have the lowest prevalence and the Southern and Southeastern regions have the highest<sup>18</sup>. In addition, these differences in the prevalence by region can suggest an inequality in the access to health services, and with this, also a difference in the prevalence of self-reported chronic diseases.

The PNS also investigated the prevalence by federative unit and capitals. Thus, the prevalence were higher in the Southern and Southeastern states and lower in the Northern and Northeastern states. For the capitals, with the exception of Natal, which presented the second highest prevalence per capital, the pattern for federative units and regions was maintained. Nevertheless, approaching this data becomes more complex, since there are few surveys at a state or local level to allow such comparison. A study conducted in the metropolitan area of Belo Horizonte in 2003 found prevalence of 8.8%<sup>24</sup>. The 2008 ISA-Capital, which investigated adults residing in the city of São Paulo in 2008, presented prevalence of self-reporting depression of 19.8%<sup>25</sup>. Data from a study conducted in Florianópolis in 2009, with individuals between the ages of 20 and 59 years, indicated a proportion of self-reported depression of 16.2%<sup>26</sup>.

It is worth noting that in the sample of the PNS, institutionalized people were not included as severe patients. In the case of chronic diseases, especially, in older individuals, in which comorbidity is more frequent, these issues can influence the prevalence of the diseases that generates more severe cases, such as depression, for example, in case the individuals have some other type of morbidity that kept them from taking part in the study.

However, despite these limitations, it is necessary, more and more, to develop regular, periodic, and representative popular investigations that mirror the reality of the country's health. Finally, health investigations conducted in various countries have shown that the data obtained

regarding the prevalence of chronic diseases present a good level of reliability when compared to the medical records or clinical exams. Furthermore, the information regarding prior medical diagnosis of chronic health conditions has been widely utilized, even in large world health investigations, including the NHANES and the *US National Health Interview Survey*<sup>27,28</sup>.

## CONCLUSION

The analysis of this study reveals the importance in knowing about the access to the diagnosis of depression in Brazil and concludes, through the description carried out here, that the challenges presented to the government, health administrators, and society, as a whole, are huge. It is necessary to enhance the access to quality health services nationwide, so as to include, mainly, the underprivileged populations referred to earlier.

It is also important to perfect the technical–scientific productions in this field of knowledge, since the lack of information available makes it difficult to compare and discuss the finding. The purpose is to allow scientific material that can contribute to the development and improvement of public health policies with the intention of supplementing the health demands described above.

Thus, the usefulness of these findings as a contribution to the formulation of national policies is reiterated. Reducing the disparities in the access to health services is essential, so as to guarantee that social rights which have been constitutionally constructed, particularly in the scope of health, be equal and universal.

## REFERENCES

1. Blas E, Kurup AS. Equity, social determinants and public health programmes. Geneva: WHO; 2010.
2. Associação Americana de Psiquiatria. Manual diagnóstico e estatístico de transtornos mentais: DSM-IV. 4 ed. Porto Alegre: Artes Médicas; 1995.
3. Organização Mundial de Saúde. Classificação internacional de doenças e problemas relacionados à saúde: CID 10. 3 ed. São Paulo: EDUSP; 1996-1997.
4. Murray CJ, Lopez AD. Global mortality, disability, and the contribution of risk factors: Global Burden of Disease Study. *Lancet* 1997; 349(9063): 1436-42.
5. World Health Organization (WHO). Fact sheet n° 369: depression [Internet]. Disponível em: <http://www.who.int/mediacentre/factsheets/fs369/en/>. (Acessado em 13 de abril de 2015).
6. Ludermir AB, Lewis G. Links between social class and common mental disorders in Northeast Brazil. *Soc Psychiatry Psychiatr Epidemiol* 2001; 36(3): 101-7.
7. Projeto São Paulo Megacity [Internet]. Disponível em: <http://www.hcnet.usp.br/ipq/projetos/index.php>. (Acessado em 17 de abril de 2015).
8. Szwarcwald CL, Malta DC, Pereira CA, Vieira MLFP, Conde WL, Souza Júnior PRB, et al. Pesquisa Nacional de Saúde no Brasil: concepção e metodologia da aplicação. *Ciênc Saúde Coletiva* 2014; 19(2): 333-42.
9. Cesar CLG. Condições de vida. In: Cesar CLG, Carandina L, Alves MCGP, Barros MBA, Goldbaum M. Saúde e condição de vida em São Paulo. São Paulo: USP/FSP; 2005. p. 63-78.
10. Instituto Brasileiro de Geografia e Estatística (IBGE). Pesquisa Nacional por Amostra de Domicílios: um panorama de saúde no Brasil: acesso e utilização dos serviços, condições de saúde e fatores de risco e proteção à saúde. Rio de Janeiro: IBGE; 2010.

11. Instituto Brasileiro de Geografia e Estatística (IBGE). Pesquisa Nacional de Saúde: percepção do estado de saúde, estilos de vida e doenças crônicas não transmissíveis. Rio de Janeiro: IBGE; 2014.
12. Andrade LH, Wang YP, Andreoni S, Silvera CM, Alexandrino-Silva C, Siu ER, et al. Mental disorders in megacities: findings from the São Paulo Megacity mental health survey, Brazil. *PLoS One* 2012; 7(2): e31879.
13. Pinheiro RS, Viacava F, Travassos C, Brito AS. Gênero, morbidade, acesso e utilização de serviços de saúde no Brasil. *Ciênc Saúde Coletiva* 2002; 7(4): 687-707.
14. Wittayanukorn S, Qian J, Hansen RA. Prevalence of depressive symptoms and predictors of treatment among US adults from 2005 to 2010. *Gen Hosp Psychiat* 2014; 36(3): 330-6.
15. Barros MBA, Francisco PMSB, Zanchetta LM, César CLG. Tendências das desigualdades sociais e demográficas na prevalência de doenças crônicas no Brasil, PNAD: 2003-2008. *Ciênc Saúde Coletiva* 2011; 16(9): 3755-68.
16. Theme-Filha MM, Szwarcwald CL, Souza-Júnior PRB. Socio-demographic characteristics, treatment coverage, and self-rated health of individuals who reported six chronic diseases in Brazil, 2003. *Cad Saúde Pública* 2005; 21(Suppl 1): S43-53.
17. Lima MS. Epidemiologia e impacto social. *Rev Bras Psiquiatr* 1999; 21(Suppl 1): 1-5.
18. Barros MBA, César CLG, Carandina L, Torre GD. Desigualdades sociais na prevalência de doenças crônicas no Brasil, PNAD-2003. *Ciênc Saúde Coletiva* 2006; 11(4): 911-26.
19. Chiavegatto Filho ADP, Wang YP, Malik AM, Takaoka J, Viana MC, Andrade LH. Determinants of the use of health care services: multilevel analysis in the Metropolitan Region of Sao Paulo. *Rev Saude Publica* 2015; 49: 15.
20. Cutler DM, Lleras-Muney A. Understanding differences in health behaviors by education. *J Health Econ* 2010; 29(1): 1-28.
21. Riolo SA, Nguyen TA, Greden JF, King CA. Prevalence of depression by race/ethnicity: findings from the National Health and Nutrition Examination Survey III. *Am J Public Health* 2005; 95(6): 998-1000.
22. Chor D, Lima CRA. Aspectos epidemiológicos das desigualdades raciais em saúde no Brasil. *Cad Saúde Pública* 2005; 21(5): 1586-94.
23. Laguardia J. Raça e epidemiologia: as estratégias para construção de diferenças biológicas. *Ciênc Saúde Coletiva* 2007; 12(1): 253-61.
24. Lima-Costa MFF. A saúde dos adultos na Região Metropolitana de Belo Horizonte: um estudo epidemiológico de base populacional. Belo Horizonte: Universidade Federal de Minas Gerais; 2004.
25. Secretaria Municipal de Saúde de São Paulo. Boletim ISA - Capital 2008. Inquérito de Saúde: primeiros resultados [internet]. Disponível em <http://www.prefeitura.sp.gov.br/cidade/secretarias/upload/saude/arquivos/publicacoes/PrimeirosResultados.pdf>. (Acessado em 10 de abril de 2015).
26. Boing AC, Peres KG, Boing AF, Hallal PC, Silva NN, Peres MA. EpiFloripa Health Survey: the methodological and operational aspects behind the scenes. *Rev Bras Epidemiol* 2014; 17(1): 147-62.
27. Centers for Disease Control and Prevention (CDC). About the National Health Interview Survey 2011 [Internet]. Disponível em: [http://www.cdc.gov/nchs/nhis/about\\_nhis.htm](http://www.cdc.gov/nchs/nhis/about_nhis.htm) (Acessado em 28 de março 2015).
28. Centers for Disease Control and Prevention (CDC). About the National Health and Nutrition Examination Survey (NHANES) 2011-2012. Disponível em: [http://www.cdc.gov/nchs/nhanes/about\\_nhanes.htm](http://www.cdc.gov/nchs/nhanes/about_nhanes.htm) (Acessado em 28 de março de 2015).

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