

Social Disparities: Health Care of the Afro-Brazilian Population-Systematic Review

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Abstract

Background: In Brazil of the 21st century, Afro-Brazilian people (black and *pardo*) still occupy different social spaces, which reflect directly in social indicators like schooling, work and health conditions below the standard. However, literature on the theme is still incipient and demands better and more theoretical foundation.

Methods: Systematic review according to the PRISMA protocol (<http://www.prisma-statement.org/>), in the BVS and PubMed, during the period from July 2007 to July 28 of 2017.

Finding: the nineteen selected studies allowed the creation of two large thematic groups: Epidemiological aspects of pathologies in the Afro-Brazilian people and Health epidemiological aspects of the Afro-Brazilian women.

Conclusion: Some common chronic pathologies are more common in Afro-Brazilian people compared with the other ethnical groups, such as Metabolic Syndrome (Hypertension, DM 2, Obesity) and Chronic Renal Insufficiency; infectocontagious pathologies like HIV/AIDS, tooth decay and Chagas disease; and mental disorders. In addition, smoking during pregnancy and anemia seem to be more prevalent in black women.

Keywords: Ethnicity and health; Health of ethnic minorities; Public health; Equity; Public health; Health of the Afro-Brazilian population

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Introduction

Afro-Brazilian population claims to health system access increased in the second half of the 20th century. They had a strong participation of popular movements and supported the process that originated the Sanitary Reform and the Brazilian Unified Health System (SUS) [1] in the future. However, even though this developing system promoted universality, equity and integrity concepts, an environment of inequalities, differences and iniquities was its real configurations [2]. The Annual Report of Racial Inequalities in Brazil (2009-2010) showed a scenario of inequalities that varied from reproductive health to dental treatment. It emphasized the disregard for the well-being of social groups that are victims of racism, which is designed as a socio and historical determined context [3,4]. Thus, in Brazil of the 21st century, white, Afro-Brazilian (black and *pardo*) and Indigenous populations still occupy different social spaces, which reflects directly in the most common social indicators like schooling, work and health conditions [5,6]. Thus, race as well as

gender and sexual orientation are social markers of difference, i.e. an explanatory variable for inequalities [6].

Based on the government point of view, the Brazilian Department of Health published the *Política Nacional de Saúde Integral da População Negra* (PNSIPN – Integral Health National Policy of the Black Population) in 2009, approved by the National Health Board in 2006 and that has been discussed since the creation of the Afro-Brazilian population Technical Committee of Health in 2004 [7]. Sao Paulo State was the precursor in this process, because it was the first to incorporate the “race/color” subject in 1990 in health information systems, even though it was done only because of the popular pressure [8]. Nevertheless, the population and health professionals seem to be unaware of how racism impacts on life, access to services and quality of care [9]. It shows the need of a continuous elaboration of studies in order to acquire updated data that reinforce race equality fight.

This study was based on the following guiding question: what is the health epidemiological profile of the Afro-Brazilian population? This review highlights Afro-Brazilian people as important ethnic creators in Brazil, influencing several national sociocultural manifestations. However, historically, Afro-Brazilian people have not been included as a target population for state policies and only after the 1988 Brazilian Constitution did social discussions by these and other minority groups gain strength in the national debate.

Our hypothesis is that despite government efforts and discussion generated on society, Public Inclusion Policies have become incipient as they do not reach this population as a whole and have discrete counter measurements when they do so. But the extent to which social disparities show the health care character of the Afro-Brazilian population is still not quite clear in literature.

Methods

Design and participants

Systematic Review according to the PRISMA protocol (<http://www.prisma-statement.org/>), whose studies were largely chosen using the *Biblioteca Virtual em Saúde* (BVS), which hosts known databases and those of PubMed.

Procedure

The following keywords were used: #1“*incidence*” [MeSH]; #2“*prevalence*,” [MeSH]; and #3 “*health equality*” [MeSH]; #3“*health inequality*” [MeSH]; #4“*african continental ancestry group*” [MeSH]; and #5 “*Brazil*” [MeSH]. Their equivalent terms in Portuguese were also used.

The period researched in literature was from July 1st of 2007 to July 28th of 2017. The 2007-2017 period was chosen for the search in order to show the epidemiological data closer to the current reality and their evolution in the last ten years.

Data were collected in July of 2017. Manuscripts were mainly chosen through the analysis of titles and abstracts.

Data analysis

The articles were analyzed according to the following eligibility criteria (**Figure 1**): (1) articles including at least one combination of the terms described in the search strategy in their titles; (2) articles written in English, Portuguese or Spanish; (3) articles that discussed about socioeconomic indicators of the Afro-descendant population that live in Brazil; (4) original studies with full text accessible through the Journal Portal of the Coordination for the Improvement of Higher Education Personnel (CAPES), which is a virtual library created by the Brazilian Department of Health with restricted content to authorized users. We excluded: (1) non-original studies, such as letters to the editor, prefaces, short communications, corrections/errata, comments, editorials, reviews, papers, dissertations, and theses. Manuscripts found in more than one of the databases were accounted only once. To ensure more outcome reliability, data were collected by two researchers individually and divergences were solved by a third senior researcher.

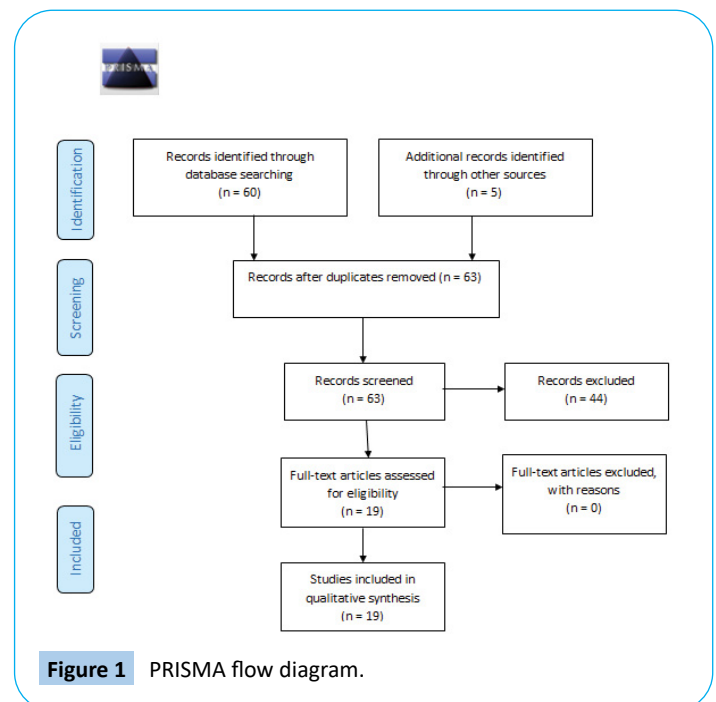


Figure 1 PRISMA flow diagram.

Then, each article of the sample was fully read, and data were added to a spreadsheet that included author and year, title, study sample, study type, main outcomes, and conclusions (**Tables 1 and 2**).

Some articles were excluded because they did not provide enough data for a comparison between several ethnic groups, due to the fact they did not divide data into different races, nor they focused on a certain group to the detriment of the others. Articles that considered *quilombolas* (maroons, in English) as a unique ethnic group are an example, because such fact does not follow the current mixed-race reality of these communities.

Results

According to the adopted strategy, 65 manuscripts were firstly chosen. After complete analysis of the titles, abstracts and manuscripts, we obtained 19 articles according to the eligibility criteria and, therefore, we excluded 46 (**Figure 1**). The sample was divided into two predetermined categories, as follows: Epidemiological aspects of pathologies in the Afro-Brazilian people; and Health epidemiological aspects of the Afro-Brazilian women.

Of the 19 chosen studies, nine [10-18] belong to the subtheme regarding general epidemiological aspects of Afro-Brazilian and ten [19-28] were more focused on Afro-Brazilian women's health.

Discussion

Epidemiological aspects of pathologies in the Afro-Brazilian people

Chronic kidney disease – CKD [10], diabetes (DM2) with higher levels of HbA1c [16], and lack of all teeth [15] or tooth decay for Afro-Brazilian people and [13] *mulatos* (they constitute the

Table 1 Epidemiological aspects of pathologies in the Afro-Brazilian population.

Authors	Journal	Sample	Main Findings in the Afro-Brazilian population
Barreto, et al. 2016 [10]	J Epidemiol Community Health	14,636 public service employees of (35-74 years old) in Belo Horizonte, Porto Alegre, Rio de Janeiro, Sao Paulo and Vitória	Afro-descendants had higher rates of chronic kidney disease (OR=1.23; 95% CI 1.03 to 1.47), and <i>pardos</i> (OR=1.16; 95% CI 1.00 to 1.35).
Lima-Costa, et al. 2016 ^a [11]	Hypertension	1,271 participants Bambuí/MG, Brazil (with age ≥ 60)	Lower per capita income and schooling respectively correlated with higher HAS indices and worst blood pressure control in Afro-descendants.
Lima-Costa, et al. 2016b [12]	PLOS Neglected Tropical Diseases	1,341 elderly (≥ 60 years old) residents in Bambuí/MG, Brazil.	Afro-descendants had more infections by <i>Trypanosome cruzi</i> .
Drummond, et al. 2015 [13]	PLoS One	5,367 Brazilian teenagers aged 15 to 19 of the five macro regions of Brazil.	Tooth decay was seen in 32% of Afro-descendants and 69% individuals of mixed-race
Mariante-Neto, et al. 2015 [9]	Transplante	206 Afro-brazilian women (23)/ white (183) in the liver transplant queue in Porto Alegre, RS, Brazil.	The main etiology of liver cirrhosis was the C Virus, followed by alcohol and B virus.
Kochergin, Proietti and César 2014 [14]	Public Health Journal	797 adults of <i>quilombolas</i> communities in Vitória da Conquista, BA, Brazil.	74.2% of the samples were sedentary, 30.4% were overweight and 10.7% were obese, 13.5% had depression and 60.2% had some chronic disease.
Celeste, et al. 2013 [15]	Comunidade Dent Oral Epidemiol	3,252 public employees.	22% of Afro-descendants presented absence of all teeth.
Miranda, et al. 2013 [16]	Diabetes Care Prim	241 (25.5%) Afro-brazilian s, versus 422 (44.7%) <i>Mulatos</i> and 272 (28.8%) Whites in Niterói, RJ, Brazil.	Afro-descendants presented higher index of HAS and DM2 with higher levels of HbA1c.
Gigante, et al. 2013 [17]	Public Health Nutrition	4297 women in Pelotas, RS, Brazil.	Afro-descendants have higher index of BMI 1-kg/m ² in comparison with whites.
Fiorio, et al. 2011 [18]	Rev Bras Epidemiol	Population of Vitória, ES, Brazil, 32% <i>parda</i> and 7% Afro-brazilian.	Afro-descendants presented higher rates of mental disorders/ behaviors and deaths by external causes, the average of age of death was 33, which is lower than the white population's rate.

Table 2 Health epidemiological aspects of the Afro-brazilian women.

Authors	Journal	Sample	Main Findings in the Afro-Brazilian population
Silveira, et al. 2016 [19]	BMJ Open	21,608 of women in Pelotas, RS, Brazil who gave birth in 1982 (5,909), 1993 (5,223), 2004 (4,201) and 2011-2012 (6,275).	The reduction in smoking during pregnancy was higher among white and high-income women.
Mariante-Neto, et al. 2015 [9]	Transplante	206 Afro-brazilian women (23)/ white (183) in the liver transplant queue in Porto Alegre, RS, Brazil.	The corrected MELD was higher for Afro-Brazilian women (63.1%) in comparison to white (26.1%).
Tabb et al. 2015 [20]	Ethn Saúde	810 pregnant women surveyed during 20-30 weeks of pregnancy in São Paulo, SP, Brazil.	Afro-descendant pregnant women were more inclined to smoke during the pregnancy.
Bernardes, et al. 2014 [21]	BMC Pregnancy Childbirth	5067 women assisted in São Luís, MA, Brazil.	Afro-descendant Afro-Brazilian women (PR = 1.19; 95% CI 1.04-1.36) and mulato (PR = 1.14; 95% CI 1.02-1.26) presented inadequate use of basic and prenatal care.
Carvalho, et al. 2014 [22]	BMC Womens Health	8,687 samples of breast neoplasms of all Brazil in a lab in Botucatu, SP, Brazil.	The Northern region, whose Afro-Brazilian culture influence is higher, presented 941 cases (3rd largest region of the country), the most common subtypes were - LumA (24.1%), LumB (37.1%), HER2 (10.1%)
Boclin, et al. 2014 [23]	Caderno de Saúde Pública	1,475 female public employees in Rio de Janeiro, RJ, Brazil.	Afro-descendants had higher incidence of Leiomyoma.
Gabrielli, et al. 2012 [24]	Reproductive Biology and Endocrinology	859 women, of which 88.5% were Afro-brazilian, in Salvador, Brazil.	8.5% of patients presented polycystic ovary syndrome.
Gomes, et al. 2013 [25]	Caderno de Saúde Pública	797 quilombolas in Vitória da Conquista, BA, Brazil.	Female quilombolas used health service more. The sample evaluated their health as regular, bad or very bad.
Freitas, et al. 2009 [26]	International Journal of Gynecology & Obstetrics	2,171,032 primiparous women assisted between 2003-2004 in the Brazilian health system, of whom 451,741 of them were Afro-brazilian.	Afro-descendant women were minority in hospital births. In the States with low hospital coverage, 64.9% of women with caesarean section were Afro-Brazilian.

Authors	Journal	Sample	Main Findings in the Afro-Brazilian population
Lopes, et al. 2007 [27]	Revista de Saúde Pública	1,068 HIV positive women older than 18 in São Paulo, SP, Brazil.	Afro-descendants had a statically significant relationship compared to white in the variables - schooling; monthly, individual and family income per capita; and number of direct dependents.
Fabian, et al. 2007 [28]	Cadernos de Saúde Pública	312 women aged between 20 to 60 in São Leopoldo, RS, Brazil.	The highest prevalence of anemia was in Afro-Brazilian women (54%) 3x higher compared with white.

Brazilian ethnic groups that are the result of miscegenation between African and European) were more present in comparison with other ethnic-racial groups.

This can be explained by biological aspects, such as higher incidence of resistant hypertension and hard control on Afro-Brazilian people and their refractoriness to medications like angiotensin-converting-enzyme inhibitors (ACE inhibitors), and psychosocial factors, for instance, limited access to services. This population also shows more incidences of infectious contagious diseases like Chagas disease [11] when compared to the European-descendant population, and metabolic diseases like polycystic ovary Syndrome, in which 889 women, in a population studied at paper [24], were assessed and 88.9% were Afro-Brazilian, with an 8.5% disease incidence [24]. However, since this study was conducted in the city of Salvador, Bahia State, in which there is a higher incidence of the Afro-Brazilian population, there is a bias here.

It is noteworthy that in these studies, lower per capita income, low schooling levels and, therefore, level of instruction for the development of health self-care had a higher impact on the prevalence of these diseases than specific biological characteristics of the Afro-Brazilian. A work conducted in Bambuí by Lima-Costa MF, et al. [12] highlighted that schooling levels (<4 years) were statistically more correlated with high pressure levels (Adjusted $\beta=2.92$; 95% confidence interval, 0.85-4.99), whereas polygenic mutations that address African ancestry were not.

An interesting fact is that in a study about health self-assessment from a quilombola population of Vitória da Conquista, Espírito Santo, Brazil Southeast, skin color was pointed out as one of the justifications for those that assessed health condition as negative [14], a similar result also found in other studies [29,30]. Racism has been indicated as one of the reasons for ethnical-racial criteria eligibility as causers of inequalities in the health quality assessment. We also identified the prevalence of food insecurity in quilombos from a Brazilian Northeast rural area, which also have some associations with economic level and quantities of residents per house [19].

In the Afro-Brazilian population, unlike other ethnic-racial groups, there are higher mortality and lower life expectancy with a disparity of around 33 years in the median of deaths between Afro-Brazilian and white individuals according Fiorio NM [18]. Afro-Brazilian people show higher rates of deaths due to mental and behavioral disorders, as well as undefined causes [18]. A study published in 2014 by Kochergin CN, et al. [14] showed a depression incidence of 13.5% in Afro-descendants from the Bahia city Vitória da Conquista, and more than 60% of them had a chronic disease. These statistics are not universal. They even

highlight there is no concrete correlation between race and mental health in literature; however, a positive incline has been seen towards this direction.

This group, probably due to their life conditions- more exposure to violence, poverty and insalubrious environments-, is more inclined to developing mental disorders. In addition, due to the lack of multidisciplinary team care in the outskirts of the cities, improper coverage of the Family Health Strategy and efficient public security presence in these places, which show a higher incidence of Afro-Brazilian people, Afro-Brazilian people would not have their cause mortis clarified.

Health epidemiological aspects of Afro-Brazilian women

After the study of HIV female carriers, statistically significant differences were found between Afro-Brazilian and non-Afro-Brazilian women for variables like schooling; monthly, individual and family per capita income; number of direct dependents, correct knowledge of CD4 and viral load examinations, access to gynaecologist and infectious disease specialist, and comprehension of what the infectious disease specialist explains during the medical appointment according Lopes F, et al. [27]. Researches [17] in the city of São Paulo that compared Afro-Brazilian and non-Afro-Brazilian women found that Afro-Brazilian women are considered the group with the highest BMI, especially at the ages of 4 and 23, varying from 1 to 3 kg/m². Thus, they reinforce the multifactorial model that mainly involves social position variables to explain the higher percentage of sick people among Afro-Brazilian people.

In Miranda et al. Afro-Brazilian women waiting for liver transplant presented lower model for end-stage liver disease- MELD (26.1%) than white women (63.4%) [16], despite the same cirrhosis causes in both groups- alcohol, C and B viruses, respectively. Also, Afro-Brazilian people are more inclined to kidney dysfunction; therefore, they show a lack of equity among women due to their ethnicity.

According the papers evaluated regarding gynecological and obstetric health issues, these patients presented a higher incidence of uterine fibroids [23] and more aggressive breast neoplasms, because when the values per region were divided, the Brazilian Northeast region, which has higher influence of the black in its constitution, provided higher rates of breast cancer with uncommon and severe mutations [22] and there was more smoking during pregnancy [19,20].

In addition, a study carried out in Bernardes ACF, et al. [21] shows that C-section delivery rates are lower in all the ethnic groups in comparison with white women, of whom Afro-Brazilian ones

are a minority in hospital deliveries. This disparity becomes even more important in states with lower access to hospitals, and causal factors include more advanced maternal age, high schooling levels, and prenatal follow-up. Such situation shows that Afro-Brazilian women have lower access to health services and undergo procedures that are available in the public health system, but they usually do not have the possibility of choosing how they want to give birth. Such fact is mainly associated with poor financial conditions of Afro-Brazilian pregnant women, even though there are many orientations in literature regarding the best delivery type.

Conclusion

Most of these diseases are strictly correlated with poor socioeconomic variables, such as low income, housing in insalubrious places, lack of access to basic sanitation, to quality food, to public security, to health services and to health

prevention and promotion media. In parallel, we noticed that the interest for such subject is still new in the country and is shown by the disparity of indicators in different regions of Brazil.

This suggests the need of increasing discussion about racial inequalities in health by promoting public policies of accessibility to services in the four spheres – primary, secondary, tertiary and quaternary attention, as well as a bolder mapping of social indicators divided and compared by regions to subsidize future interventions.

Ethics Approval

This study followed all the ethical requirements of Helsinki Declaration and Resolution 510/2016 of the Brazilian Health National Council. It is a Literature Review study; therefore, it does not need to be submitted to the Ethics Committee in Research with Human Beings.

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