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The colonial continuum of environmental racism in Brazil: racializing environmental health and sanitation[1]

El continuum colonial del racismo ambiental en Brasil: racializado la salud y el saneamiento ambiental

O continuum colonial do racismo ambiental no Brasil: racializando a saúde e o saneamento ambiental

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Abstract The deficit of sanitation and its impact on health is a reality of a significant part of the Brazilian population. However, this inequality is not equitably distributed in society, as there is a racial profile of those most vulnerable and victimized by unsanitary environmental conditions. Although it is a social issue, this subject has still been neglected as a sociological problem. Thus, based on exploratory-level bibliographic research and the analysis of current data on access to sanitation and morbidity/mortality from diseases related to inadequate environmental sanitation according to color/race, this paper includes the factor of race on sanitation and (environmental) health discussion from a political-historical perspective. The results show that since Colonial Brazil there is a *continuum* of sanitary experiences of the Black population marked by the lack of access to sanitation services and their impact on the environmental health of this population. As a result, every hour and a half, a Black person dies for not having adequate sanitation in Brazil, a reality that results from the relationship between State, institutional racism and environmental racism, contributing to the genocide of the Brazilian Black population. As such, perspectives and measures that place this topic in the political and research agendas are urgent.

Keywords: environmental racism; sanitation; environmental health; black population health; racial hygiene; black genocide.

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Resumen El déficit de saneamiento (y su impacto en la salud) es una realidad de una parte significativa de la población brasileña. Sin embargo, esa desigualdad no se distribuye de forma ecuánime en la sociedad: hay un perfil racial de aquellos que son más vulnerables y victimados por las condiciones ambientales insalubres. A pesar de constituir un problema social, esta temática todavía sigue siendo desatendida como problema sociológico. De este modo, a partir de la investigación bibliográfica a nivel exploratorio y del análisis de datos actuales de acceso al saneamiento y morbimortalidad por enfermedades relacionadas con el saneamiento ambiental inadecuado según color/raza, se pretendió racializar la discusión sobre saneamiento y salud (ambiental) a partir de una perspectiva político-histórica. Se verificó que desde el Brasil Colonial hay un continuum de vivencias en materia de saneamiento de la población afrodescendiente marcado por el no acceso a servicios de saneamiento y su consecuente impacto en su salud ambiental. Como consecuencia, cada hora y media una persona afrodescendiente muere por la falta de saneamiento adecuado en Brasil, una realidad que resulta de la relación entre Estado, racismo institucional y racismo ambiental, y contribuye con el genocidio de la población afrodescendiente brasileña. Por lo tanto, urge análisis y acciones que coloquen este tema en las agendas políticas y de investigación.
Palabras clave: racismo ambiental; saneamiento; salud ambiental; salud de la población afrodescendiente; higienismo; genocidio negro.

Resumo O déficit de saneamento – e seu impacto à saúde – é uma realidade de parcela significativa da população brasileira. No entanto, essa desigualdade não é distribuída de forma equânime na sociedade, há um perfil racial daqueles mais vulneráveis e vitimados pelas condições ambientais insalubres. Apesar de constituir um problema social, essa temática ainda tem sido negligenciada enquanto problema sociológico. Desse modo, a partir da pesquisa bibliográfica de nível exploratório e da análise de dados atuais de acesso a saneamento e morbimortalidade por doenças relacionadas ao saneamento ambiental inadequado segundo cor/raça, pretendeu-se racializar a discussão sobre saneamento e saúde (ambiental) a partir de uma perspectiva político-histórica. Verificou-se que desde o Brasil Colonial há um continuum de vivências sanitárias da população negra marcado pelo não acesso aos serviços de saneamento e seu consequente impacto na saúde ambiental dessa população. Em virtude disso, a cada uma hora e meia uma pessoa negra morre por não ter saneamento adequado no Brasil, uma realidade que resulta da relação entre Estado, racimo institucional e racismo ambiental e contribui para o genocídio da população negra brasileira. Urge, portanto, olhares e ações que coloquem esse tema nas agendas políticas e de pesquisa.
Palavras-chave: racismo ambiental; saneamento; saúde ambiental; saúde da população negra; higienismo; genocídio negro.

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Introduction

Currently, basic sanitation is understood as a set of services, infrastructures and operational installations for urban cleaning and solid waste management, urban rainwater drainage and management, sewage disposal, and potable water supply. Environmental sanitation, in turn, encompasses sanitation as an instrument of health promotion which, in addition to basic sanitation, includes gaseous waste, the promotion of the sanitary discipline of soil use, the control over transmissive diseases, other services and works whose purpose is urban and rural quality of life and well-being (Brasil, 2007; Funasa, 2015).

In this way, the close relationship between sanitation, health and environment becomes visible. Its relevance and evidence are demonstrated in the existence of fields and concepts such as environmental epidemiology, environmental health, healthy environmental conditions, and health promotion, even though in practice the planning is not integrated (Funasa, 2015; Heller, 1998; Soares, Bernardes & Cordeiro Netto, 2002). Another concept that must be highlighted is *environmental health in sanitation*, which regards health promotion and the population's quality of life through actions in sanitation and interventions in education, according to Brazil's National Foundation for *Health's Sanitation Manual* (*Manual de saneamento*) (Funasa, 2015).

In the legal framework, environmental health in sanitation is guaranteed on national as well as international level. Constitutionally (Brasil, 1988), health is guaranteed as a right of all and a duty of the State (art. 196), with public participation in the formulation of sanitation policy and the execution of actions in the sector (art. 200) being part of the scope of the Brazilian Unified Health System (*Sistema Único de Saúde* – SUS). In turn, the right to an ecologically balanced environment is guaranteed as a requirement for the present and future generations' healthy quality of life (art. 225). Meanwhile, the right to sanitation and environmental health, as well as the universalization of access to basic sanitation, are instituted by law 11.445/2007 (Brasil, 2007), known as the basic sanitation law for establishing the sector's guidelines.

However, environmental health in sanitation being a right does not guarantee its legal enforcement. Thus, discussions on social determinants of health, health inequalities and environmental justice have significantly contributed to the politicization of health-illness social processes. These debates have highlighted the unfair, avoidable, unacceptable and inhumane aspects that characterize the health conditions of certain segments of society, situated in spatial contexts of socioeconomic, environmental and cultural inequalities (Barata, 2001, 2009; CNDSS, 2008; Porto, 2004).

Hence, the lack of access to dignified housing and sanitation emerges as a determinant factor in the health-illness process in the country (Brasil, 2010; CNDSS, 2008) and, consequently, produces epidemiological conditions whose predominant profiles are groups deprived of power and property (Barata, 2001, 2009). In this sense, some authors have highlighted that the Black population[2] is one of those groups that are made vulnerable. These authors have also been endorsing the need for research on sanitation conditions and their impact on the health of the Black population (Cunha, 2012; Garcia, 2009; Lopes, 2005a, 2005b; Rosemberg & Pinto, 1995; Santos, 2013), since the focus on the relation between sanitation and race is quite limited[3] in national literature. And, when this relation is considered, the papers do not include historical context, nor place it in the theoretical and political discussion of (structural, institutional, environmental) racism. Indeed, even the discussion on environmental racism in Brazil is still too incipient, and only recently the discussion on institutional racism has been strengthening.

In addition to this, one must not lose sight that, in a broader scale, the racial variable and the discussion on racism and racial inequalities in fields such as epidemiology and public health, as well as the dialogue with the environmental interface, remain neglected within the hegemonic research agenda of social sciences in health. These discussions demand the funding of research on the Black population's epidemiological conditions, on the approach, identification and fight against forms of institutional racism, and on the identification of urban areas' Black population's health needs (Barata, 2009; Bastos & Faerstein, 2012; Brasil, 2013; Cunha, 2012; Lopes, 2005a, 2005b; Soares Filho, 2012; Werneck, 2016).

Therefore, this article aims to fill (yet not intending to exhaust) this gap, in a way to highlight the importance of the racial factor in the analysis of the relation between sanitation and health. It is also intended to situate this topic in the discussion on environmental racism from a political-historical perspective that emphasizes the importance of sanitation diseases in the composition of the Black population's morbidity/mortality profile. Thus, racializing the discussion

[2] The Black population is understood as the sum of populations that self-declare as Black or ethnically mixed (between white and Black) in forms and research such as the IBGE Census or medical records. Therefore, a field is created in which the color/racial category is chosen from the options: Black, Mixed, white, Yellow (of Asian descent) or Indigenous. Sociologically, I agree with Munanga (2003), to whom race relates to the cultural and identity aspects that are historically built and rebuilt as social and political constructs within power relations, and not to a biological, scientific and determinist factor. For the Munanga, race and ethnicity are ideologically manipulated concepts nowadays, serving various and confusing uses.

[3] I am not disregarding the existence of numerous ethnographies and sociological studies that show data or a description of sanitation in Indigenous or *quilombola* lands and communities, or even *favelas* and peripheral areas, and their racial interface; nor some studies from the federal government, such as *Retratos da desigualdade (Portraits of Inequality)*, from the *Instituto de Pesquisas Econômicas Aplicadas* (Ipea). By mentioning the limited number of papers on this relation, I am referring to those whose aim is specifically analyzing this racial dimension of the sanitation deficit, with sufficient theoretical framework to deepen the sociological understanding of this social issue.

on sanitation and (environmental) health and politicizing the discussion on racism are the purpose of this article.

Moreover, it implicitly aims to elevate this social issue to a sociological problem, that is, to engage in a research effort to place it as a scientific problem and as a target for social policies, as according to Silva (1967). For this matter, it is important to consider that scientific research must be related to real life and to social interests and circumstances, since "nothing can be an intellectual problem if it has not first been a problem in practical life" (Minayo, 2012:16) [4].

In this sense, it is worth pointing out that this article was produced from disturbances/questions of my individual experience during the two years of my master's degree in Rio de Janeiro. In the "Wonderful City" [5] I experienced daily problems concerning the lack of sanitation, from poor pressure and lack of water to the impossibility of using water as it left the tank exceedingly hot, and dealing with the excess of litter, rats and cockroaches. Some experiences that marked my passage in Rio de Janeiro include worrying about the rain blocking me out of my house, leaving home without being able to take a shower, the neurosis in closing every possible hole so no cockroach could enter, and filling bowls of water at the university to drink at home. This narrative is mine but not limited to me.

Far from being an individual problem and a hidden reality, this is an evident social reality that is easily verifiable when one is in peripheral areas, *favelas*, suburbs and slums. Considering this, I seek the macro-scale, the general data that raises this social phenomenon to a sociological problem at national scope. For this matter, I use the exploratory-level bibliographic research according to Gil (2009). It encompasses an appropriation of already elaborated material, especially books and scientific articles, to produce a general and approximate view of the fact, particularly when the topic is little explored, to reframe the problem under a new perspective. In addition, I analyze current data on access to sanitation and morbidity/mortality due to diseases related to inadequate environmental sanitation by color/race, based on databases of the IBGE's 2010 Census and of Tabnet DataSUS, from SUS.

I begin with a reflection on what is understood by institutional racism and its relationship to health. Next, I approach environmental racism as a dimension of institutional racism and its relationship to sanitation and unsanitary environmental conditions. Lastly, I situate the historical and colonial relationship of the Black population to the lack of access to sanitation and its impact on this population's morbidity/mortality.

[4] T. N. – Translator's note**:** All direct quotes were freely translated by the article's translator from the original quotation (or translated edition) in Brazilian Portuguese, as referenced next.

[5] T. N. (Translator's note): Rio de Janeiro has been known since the beginning of the 20th century as the "Wonderful City" ("Cidade Maravilhosa").

Institutional racism as a social determinant of health

Racism may appear in multiple, complex forms, including from personal feelings and interpersonal actions to the structure of public policies, governments and states, shaping culture, politics, and ethics. That is to say, racism may occur at personal (internalized), interpersonal, and institutional levels, being this last one what interests us here, as it is the most neglected dimension of racism (Geledés, 2013a; Werneck, 2016).

Institutional racism, also known as systemic racism, corresponds to the structural mechanism of selective racial exclusion in the access to benefits generated from the State and enjoyed by privileged racial groups. In this way, institutional racism induces, maintains and conditions the organization and action of the state, its institutions and public policies (Brasil, 2013; Geledés, 2013a). That is, institutional racism is responsible for fostering selective exclusion of subordinate racial groups through "logic, processes, procedures, conducts that will impregnate institutional culture – which, if it does not make them invisible, is part of the 'natural' order of things" (Werneck, 2016:545).

This kind of racism can be verified in the access to power as well as in the material dimension, being this what we are mainly interested here, which assumes the state's repeated absence in some cases and/or the unavailability or limited access to fundamental rights, services and quality policies. That is, institutional racism is responsible for perpetuating privileges, white hegemonies and structuring conditions of the racial inequalities that expose the Black population to vulnerable conditions and lack of social protection (Geledés, 2013a, 2013b).

It is in this sense that racism emerges as a social determinant of health, insofar as the concentration of wealth and power, as well as the racial factor and environmental and living conditions, are associated with the iniquities in health. Thus, the understanding of racism as a social determinant of health implies the recognition that institutional racism is an obstacle to equity promotion to the degree that it influences the health-illness-care-death process, favors a morbidity/mortality profile associated with unjust, preventable diseases, and stimulates the violation of human rights (Barata, 2009; Bastos & Faerstein, 2012; Brasil, 2011; Lopes, 2005a, 2005b; Soares Filho, 2012; Werneck, 2016).

This becomes evident when analyzing (infant and adult) mortality numbers, life expectancy and life years lost by race. This configures a frame of visible and measurable marks of life hopelessness at birth and of a superlative loss of lives due to external causes of death, having racism as a vulnerability manufacturer and

multiplier. As a result, Indigenous[6] and Black people have unequal birth, life, illness and death experiences when compared to white people (Lopes, 2005a, 2005b).

This situation was also reported in the Durban Conference [7] (2001), in which racism and racial discrimination have been pointed out as factors contributing to the deterioration of living conditions and the denial of human rights. In 2013, the National Policy for Holistic Health of the Black Population (*Política Nacional de Saúde Integral da População Negra* - PNSIPN) has made the "recognition of racism, ethnic-racial inequalities and institutional racism as social determinants of health conditions, aiming equity promotion in health" (Brasil, 2013:18), although this policy has not been properly implemented and is even rejected by many (Werneck, 2016).

It is important to highlight that this context is not dissociated from the political, social and economic conditions that structure society's relationships and negotiations. The precarious conditions that affect the Black and poor population shape a frame of life conditions that is structured in "unjust social, cultural and economic processes in the history of the Country" (Brasil, 2013:5), where chronic and infectious diseases, high index of urban violence, high rates of maternal and infant mortality prevail, as well as "the Black population's undignified life conditions". Deprived of public services and goods, they are marked by social exclusion.

Thus, some studies regarding social inequalities in health have demonstrated a bigger social disadvantage to which the Black population is submitted, including poverty conditions, low human development index and the precarious access to basic sanitation, education and work placements (Barata, 2009; Bastos & Faerstein, 2012). This disadvantage scenario also includes "economic discrimination, spatial segregation, social exclusion, removal of political power and cultural devaluation" (Barata, 2009:66).

Environmental racism within the context of environmental sanitation and unsanitary conditions

Considering institutional racism as the state's "negligence" concerning the guarantee of services, works, public policies and (basic and fundamental) human rights, the existence of a relationship between institutional racism and environmental health in sanitation is noticeable regarding health, ecologically balanced environment and basic sanitation.

[6] It is important to highlight that, despite the focus on the Black population, Indigenous populations have also been impacted by environmental racism in even more precarious sanitary conditions in relative terms, especially regarding Indigenous housing in urban areas, according to Raupp (2017). In this case, infectious and parasitic diseases have a significant impact on Indigenous health, especially in children under 5 years of age, whose morbidity and mortality from diarrhea has historically claimed many lives. (CNDSS, 2008).

[7] International framework on racism.

Historically, due to discriminatory environmental policies, the populations who are dispossessed, poor and from ethno-racial[8] minorities have been situated near sewage installations and trash, thus, being exposed to inadequate sanitation conditions. The racial character of this process must be emphasized, as some groups are considerably more likely to occupy such places than others. This reveals that "the environmental inequality has a racial specificity" (Acselrad, 2004:31), supporting the thesis of environmental racism.

The environmental racism term was used for the first time by Benjamin Chavez in North Carolina (United States) in 1978, during demonstrations against the discharge of polychlorinated biphenyls (PCB), a highly toxic chemical (Roberts & Toffolon-Weiss, 2004). Environmental racism is understood as any policy, practice, or directive conducted by governmental, legal, economic, political and military institutions that racially affects or harms, in different ways, whether voluntarily or involuntarily, the environmental conditions of housing, work, or leisure of individuals, groups, or communities (Bullard, 2005).

In this sense, it is worth highlighting some points: first, that "environmental racism does not only refer to actions which have a racist intent, it also includes actions of racist impact, regardless of their intention" (Roberts & Toffolon-Weiss, 2004:81); second, that environmental racism is a form of institutional racism, since the omission of public policies favors the prevalence of determinants of social and racial inequality in the environment, resulting in racial inequities, political exploitation, and in leaving Black communities facing the worst environmental problems (Bullard, 2004; Acselrad, 2004).

It must be reiterated that life under precarious socio-environmental conditions, together with power inequalities in decision-making processes, cannot be decoupled from the processes of (environmental) racism (Bullard, 2004). Low-income levels have contributed to Black populations being concentrated in areas whose "surroundings are deficient, exhausting, and disease-producing" (Brasil, 2013:13), as well as marked by "undesirable housing features". This includes inadequate/non-existent basic sanitation and electricity services, high population density, and housing construction with precarious materials.

In this way, the debate on environmental racism includes the lack of basic sanitation, which affects the health and life of urban Black populations in favelas, peripheral areas and suburbs as well as the Black populations of the countryside, the

[8] Some researchers use the term ethnic or ethnic-racial to also encompass the (ethnic) diversity within the racial group itself – for example, *bantos* and *criolos* are Black ethnicities. The "ethnic" category is frequently used when the discussion includes Indigenous populations in order to differentiate and value diverse groups such as the *tupiniquim* and the *guarani*. Munanga (2003) states that race has a morphological, biological content, while ethnicity is sociocultural, historical and psychological. Moreover, although not synonyms, racism operates – parasitizes, according to the author – as an ideology on both race and ethnicity by creating hierarchy, dehumanizing and justifying the existent discrimination.

forest and the waters, such as *quilombolas*, *caiçaras*, *marisqueiras*, fishermen and women, extractive workers, coconut breakers (*quebradeiras de coco*), *ribeirinhos*, and rubber tappers (*seringueiros*). These sanitary experiences marked by unsanitary environmental conditions (in housing, work, or leisure) include: the lack of access to water (whether potable or not) and sanitary installations; the dispute for water usage and the improper privatization of water resources; pollution and sewage discharge in bodies of water; the inadequate and clandestine discharge of (domestic or toxic) residue; houses in dangerous slopes or areas along waterways prone to landslides and floods; and living in landfill sites, flooding areas, garbage dumps, and chemical waste landfill sites.

Black population's environmental health in sanitation from colonial Brazil to current times

Sanitation conditions are an important feature in contexts of environmental racism, whose history dates back to the colonial period, when the enslaved Black population had no access to sanitation, although they carried out sanitation services for manor houses (*casas-grandes*), townhouses, public offices, and the city's institutions (Chalhoub, 1996; Conrad, 1985; Karasch, 2000; Klein, 1987). That is, Black bodies were the city's sanitation systems.

Hence, the colonial context has been determinant and the (fulminating) founder in the Black population's epidemiological framework, affecting their hygiene and health conditions by inducing *diseases related to inadequate* environmental sanitation[9] (DRSAI), a concept coined by Costa et al. (2004) based on classifications from the World Health Organization (OMS, 1985, 1997). They are also named as diseases related to sewage and water supply, according to Brazil's National Foundation for Health's Sanitation Manual (*Manual de Saneamento*) (Funasa, 2015).

[9] According to Costa et al. (2004), DRSAI encompass illnesses related to water, excreta and waste, as well as groups of infectious-parasitic diseases (DIP) and of infectious intestine infections (DII), such as: (1) fecal-orally-transmitted diseases: diarrheas, enteric fevers, and hepatitis A; (2) diseases transmitted by vector-insect: dengue, yellow fever, (integumentary and visceral) leishmaniosis, lymphatic filariasis, malaria, and Chagas disease; (3) diseases transmitted by contact with water: schistosomiasis and leptospirosis; (4) hygiene-related diseases: eye disease, trachoma, conjunctivitis, skin diseases and superficial mycoses; (5) geohelminths and taeniases: helminthiasis and taeniasis. In turn, according to Funasa's *Manual* (2015), the following diseases are related to water supply: (1) diarrhea and parasitic infections: cholera, giardiasis, cryptosporidiosis, typhoid fever, paratyphoid fever, amebiasis, infectious hepatitis (viruses: "A" and "B"), and ascariasis; (2) skin diseases: Impetigo, dermatophytosis and mycoses, scabies and pyoderma.; (3) eye diseases: conjunctivitis (virus and bacteria); (4) transmitted by vectors: Malaria, dengue fever, yellow fever, and filariasis; (5) associated with water: schistosomiasis and leptospirosis. Diseases related to sewage include: (1) bacteria: typhoid and paratyphoid fever, cholera, and acute diarrhea.; (2) virus: hepatitis A and E, poliomyelitis and acute diarrhea; (3) protozoan: acute diarrhea and toxoplasmosis; (4) helminths: ascariasis, trichuriasis, hookworm infection, schistosomiasis, taeniasis, and cysticercosis.

The mortality from diseases linked to poor hygiene and sanitation conditions marked the historiography of slave trade and the overcrowded, unsanitary slave ships, whether due to rudimentary sanitation and hygiene facilities, or due to the conditions concerning food and drinking water. It is estimated that 1 to 2 million Africans lost their lives during the forced crossing on the transatlantic ships, with poor sanitation being responsible for dysentery (cholera), the leading cause of death during these voyages (Chalhoub, 1996; Conrad, 1985; Klein, 1987).

The unsanitary conditions were also present upon arrival to Americas, during the quarantine period and in the slave market. In both situations, the high mortality due to unwholesome hygiene and sanitation conditions, in addition to poor feeding conditions, favored the proliferation of mosquitoes, dirt, and epidemic diseases. After being sold, enslaved people were held in poor conditions, aggravated by precarious housing, such as dark, humid basements or minuscule cubicles, often infested with rats and insects (Farias *et al.* 2006; Karasch, 2000; Silva, 1988).

Moreover, many enslaved Black people lived and worked in places where malaria-carrying mosquitoes proliferated, such as swamps, flooded areas, garbage and sewage dumps, warehouses, cemeteries, hospitals, and prisons. Thus, workplaces without drainage and sewage systems, without latrines or toilets, and streets filled with animal and human excrement as well as dead animals and dead enslaved Black people were determining factors in the morbidity and mortality rates of the Black population (Karasch, 2000).

Consequently, the main diseases were infectious and parasitic, such as tuberculosis, dysentery, smallpox, tetanus, and malaria, which were aggravated by poor living, housing, feeding and working conditions. Diarrhea, gastroenteritis, hepatitis, and enteritis claimed the lives of thousands of enslaved people, with cholera being particularly prominent. Worm-related diseases were also fatal to the Black population since, due to poor nutrition, the hookworm reproduction cycle almost always ended with the death of the host. For instance, bacillary dysentery was one of the fastest and most fatal diseases, leading to death in three or four days, while amoebic dysentery was more recurrent, with a higher probability of survival (Farias *et al.*, 2006; Karasch, 2000).

At that moment, the life expectancy of a Black person was 23 years, with one-third not surviving before reaching one year of age and almost half of the children not reaching 5-10 years of age. The lack of sanitation, coupled with the habit of playing in streets full of feces and putting dirt in their mouths, led to many children being infected with jigger infestation, roundworms, pinworms, and hookworms. Due to their greater vulnerability, children and the elderly were the main victims of death from diarrhea and diseases related to inadequate sanitation (Karasch, 2000; Klein, 1987).

In the 19th century, many enslaved Black people were still dying from diarrhea, worms and parasites. According to Karasch (2000:239), "what actually weakened and killed the slaves, especially the children, was not the worm itself, but the combination of malnutrition and worms (and perhaps malaria parasites), of which anemia and diarrhea were often the only symptoms".

These conditions, in addition to worms and parasites, led to many other gastrointestinal disturbances, causing diarrhea and contributing to the worsening health of the enslaved Black population. For example, hepatitis, which also occurs in environments with poor sanitation, was very common and, combined with low socioeconomic standards, poor nutrition, high stress, and overwork, contributed to the high mortality rate from these diseases (Karasch, 2000).

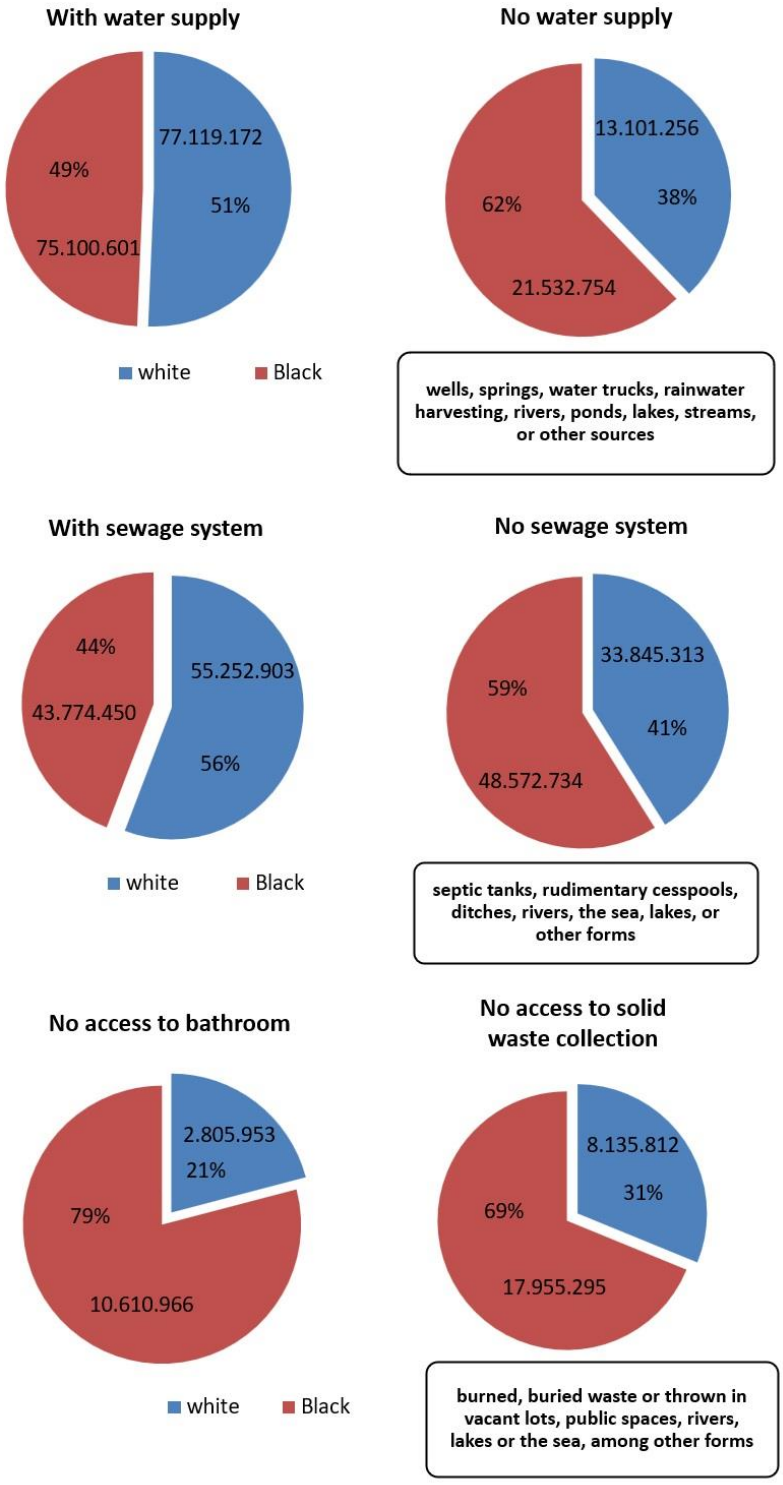
At the beginning of the 21st century, a movement focused on the health of the Black Brazilian population was organized. Mobilized mainly by Black activism, it denounced the injustices and inequities in health for this segment of the Brazilian population as caused by the state's omissions, which resulted in the creation of the PNSIPN, focusing on racial equity in health (Brasil & Trad, 2012). Other important legal frameworks were established, such as the Durban Conference's Declaration and Programme of Action (Conferência..., 2001), the Brazilian sanitation law (Brasil, 2007) and the Statute of Racial Equality (*Estatuto da Igualdade Racial)* (Brasil, 2010). These documents recommend and assure that urban Black populations (of *favelas*, tenements, and underutilized, degraded, or degrading urban areas) and traditional Black populations (such as *quilombolas*, *ribeirinhos*, among others) are prioritized in sanitation programs.

Nonetheless, even today, a significant portion of the Black Brazilian population survives in sanitary conditions similar to those of colonial Brazil. The Brazilian scenario revealed by the 2010 Census shows that 48% of the Brazilian population was white and 51% was Black. However, there is an overrepresentation of the Black population in unsanitary housing conditions, since 61% of the population without access to water supply was Black and only 37% was white; 67% of the population without access to waste collection was Black and only 30% was white; 58% of the population without access to sewage treatment was Black and 40% was white; and 76% of the population without a bathroom was Black and only 20% was white.

In absolute terms, this means that in Brazil, in 2010, there were 21,532,754 Black people whose water supply came from wells, springs, water trucks, rainwater harvesting, rivers, ponds, lakes, streams, or other sources. There were 17,955,295 Black people who burned, buried or threw their waste in vacant lots, public spaces, rivers, lakes or the sea, among other forms of destinations. There were 48,572,734 Black people whose sewage was disposed of in septic tanks, rudimentary cesspools,

ditches, rivers, the sea, lakes, or other forms. Furthermore, 10,610,966 Black people were living in the alarming and precarious condition of not even having a bathroom in their home, as shown in Figure 1.

Figure1. Racial profile of basic sanitation inadequacy, Brazil, 2010 (Comparison between Black and white population)



Source: Adapted from IBGE (2010) in collaboration with Antônio Tadeu Ribeiro de Oliveira (IBGE/RJ).

In this way, the importance of environmental racism in producing a reality marked by unsanitary conditions becomes clear. This is because, sanitation is one of the factors that provide the material and social conditions that ensure the full enjoyment of health and well-being by inhibiting, preventing, or hindering endemic and epidemic diseases transmitted through the environment (Funasa, 2015). In practice, this data highlights the racial abyss in the provision of public sanitation policies, revealing a proportional line between the imposed precariousness of the service and the Blackness of the unserved population. This exposes the Black population to precarious forms of access to water and sewage and waste disposal, consequently making them more vulnerable to health risks.

This is evident in data from DataSUS (Brasil, 2006). From 1996 to 2014, as many as 231,087 Brazilians died of DRSAI. Of these deaths, 23% did not have racial identification, and of the 77% for which the race/color category was filled in, 55% were Black and 43% were white, a percentage difference of 12% which equates to 21,270 more deaths. The cumulative number of deaths among the Black population in Brazil due to DRSAI[10] during this period was 97,897, all dying from diseases prevalent in 16th century Europe, but preventable today.

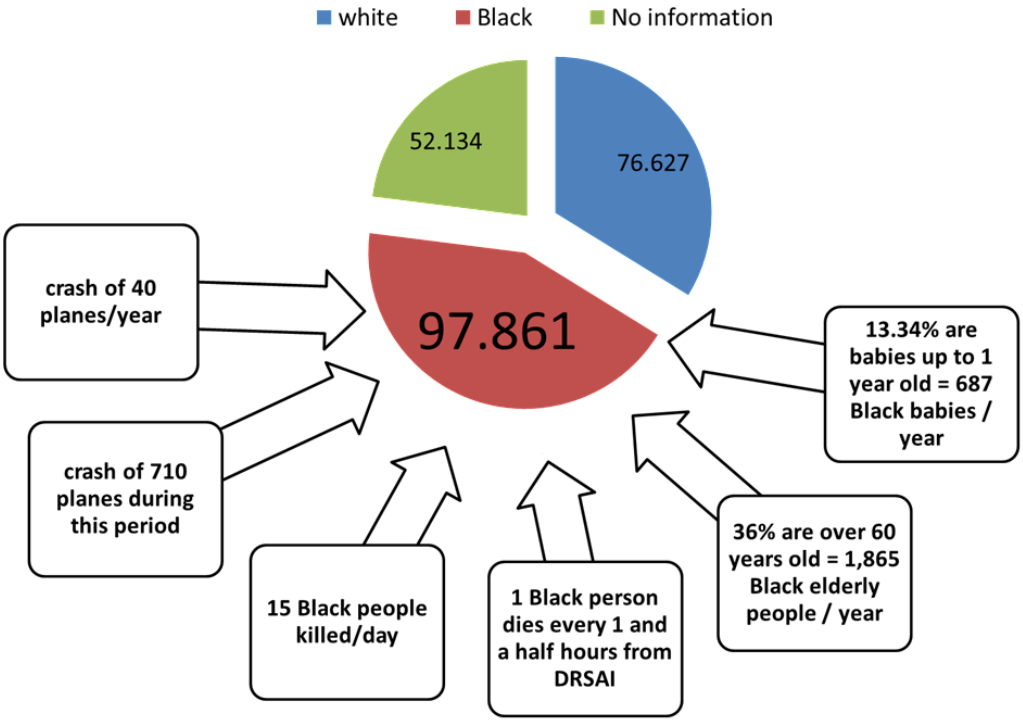
The above is equivalent to 710 airplane crashes[11] or 40 airplanes crashed annually with Black passengers on board, with the state as the pilot, social institutions as co-pilots, and society as flight attendants. This means that a Black person dies every hour and a half in Brazil due to lack of sanitation. Continuing with the airplane metaphor, as shown in Figure 2, it is important to highlight that 50% of the seats on each Boeing flight headed for death are occupied by babies up to one year old (13,34%, which is equivalent to 687 Black babies per year) and elderly Black people (above 60 years old, totaling 36%, which is equivalent to 1,865 Black elderly people per year). As in the colonial period, Black children and elderly people remain more vulnerable.

[10] Diseases directly related to the lack of sanitation as well as those aggravated by not having adequate sanitation for personal hygiene are considered here. That is, in addition to fecal and oral transmission diseases and water contamination, those caused by vectors associated with lack of sanitation and unsanitary environmental conditions are taken into account. Thus, the considered diseases are: cholera, typhoid and paratyphoid fevers, amoebiasis, diarrhea and gastroenteritis with presumed infectious origin, respiratory tuberculosis with bacteriological and histological confirmation, tuberculosis of the respiratory tract without bacteriological and histological confirmation, fevers transmitted by rat bites, leptospirosis, leprosy, dengue, hemorrhagic fever due to dengue virus, yellow fever, acute hepatitis A, malaria due to *Plasmodium falciparum*, *Plasmodium vivax* malaria, *Plasmodium malariae* malaria, other forms of malaria confirmed by parasitological examinations, unspecified (NE) malaria, leishmaniasis, schistosomiasis, filariasis, hookworm, ascariasis, strongyloidiasis, trichuriasis, oxyuriasis, other intestinal helminthiasis not elsewhere classified (NCOP), unspecified intestinal parasitosis, other helminthiases, tuberculosis sequelae and leprosy sequelae.

[11] Calculation executed according to the Boeing 737-700 model, with a capacity of 138 passengers and used by Gol airlines.

The living conditions of the Black (and Indigenous) population continue to be made vulnerable, marginalized, and minimized, historically and daily producing precarious living conditions. And, as if the genocide of young Black people from peripheral areas through homicides was not enough, death due to lack of sanitation has disproportionally affected Black babies and the elderly, in addition to young people. It is as if dying were our destiny: in childhood from lack of sanitation, in youth from bullets, and in old age again from lack of sanitation.

Figure 2. Racial profile of mortality by DRSAI, Brazil, 1996 to 2014



Source: Adapted from Brasil (2016).

It is important to highlight that the reality for the Black population is predicted to be even worse regarding the occurrence of diseases and their progression to death due to DRSAI, since many cases are underreported and 23% (a statistically significant value) of cases that fall into the "no information" category may have been overlooked due to institutional racism – in addition to the fact that the majority of the SUS (Brazilian Unified Health System) users are Black, as is the population without sanitation, as shown in Figure 1. Even so, the numbers are significant.

As can be expected the number of Black people that get sick due to lack of sanitation is even higher. From January 2008 to October 2016, almost 2 million Black people were hospitalized for sanitation-related diseases in Brazil (Brasil, 2016), only considering official data and discarding underreporting.

As stated by Werneck (2016), this context reveals that political and health management decisions have been insufficient or ineffective for the reduction and elimination of vulnerabilities that affect the health and the quality of life of the Black population, including in the unequal treatment produced or sustained by SUS. Moreover, these decisions increase the Black population's vulnerability regarding human rights violations due to institutional racism. "In the case of the Black population's health, the environment, which excludes and denies the natural right to belonging, determines special vulnerability conditions", whether individual or social, and programmatic vulnerability, derived from sociocultural, political, and economic phenomena (Lopes, 2005a:55).

In this manner, life experiences marked by environmental racism expose the Black population to risks and conditions due to environmental and urban planning decision-making that do not take this group into account. This promotes ecological destruction and exploits the vulnerability of these populations, deprived of economic and political rights. This situation is steeped in the legacy of slavery and the white resistance to equitable justice (Bullard, 2004, 2005).

Racism is a significant factor in the distribution of people in the physical environment, in land use, in housing patterns, and in infrastructure development. It has been determinant in the explanation of the conditions of Brazilian favelas and the deficient provision of infrastructure in sanitation, health, safety, and public transportation for the Black resident population. Thus, racism has privileged white people and explained social inequity, political exploitation, social segregation, and the lack of health and well-being of the Brazilian Black population (Bullard, 2004).

Finally, it is important to situate that environmental degradation interferes directly in the dignified possibilities of human existence. Exposed to unsanitary conditions of environmental racism, the Black population is treated as unwholesome by parts of society and the Estate. It is necessary to understand and act in favor of the ecological dimension of human dignity for populations deprived of basic rights to survival and quality of life and impacted by environmental racism. After all, as Lopes (2005a) states, the promotion of racial equity necessarily involves guaranteeing health and dignity as human rights.

Final considerations

Environmental racism and environmental health in sanitation are extremely important to understand the epidemiological framework of the Black population's health, insofar as it is evident that there is a racial profile in the lack of access to sanitation and, consequently, in mortality from DRSAI. Therefore, the politicization of the health-illness processes is essential for understanding the multiple facets of racism as a social determinant of health. Environmental racism is present in a context of "poverty-related diseases", "neglected diseases" and "preventable diseases". It provides clues to the understanding of the social, economic, and political dimensions that (re)produce a political-epidemiological framework of vulnerability to the health, body, and life of the Black population, increasing the social conditions that expose them to risks and determine their birth, life, illness, and death.

In this manner, I aimed to show how environmental racism's validity is a historical fact that harks back to the colonial period. From slave ships to the current Black spaces, marginalized by state urban planning (favelas, peripheral areas, suburbs, slums etc.), the Black population has been deprived of a basic right of access to basic sanitation. Therefore, a colonial *continuum* is verified, a continuity of the colonialist violence and inequalities as well as its mechanisms of perpetuating the non-recognition of the Black population as subjects, let alone as human beings, thereby imposing upon them a policy that denies them their rights and their (human) dignity.

In this context, the role of the state is vital in maintaining this centuries-old history of "neglect" regarding the basic hygiene and health conditions of this group. By not guaranteeing the right to the city and to environmental health in sanitation to the Black population, the state has used sanitation as a sophisticated political apparatus to assault and murder bodies that are considered killable. The state has done this by making itself absent from the role of promoting health through public policies, as well as imposing precariousness to the SUS (Brazilian Unified Health System), which is unable to address and reverse the mortality from DRSAI.

Hence, a scenario of eugenic genocide is explicit, that is, a racialized production of mass death by violence on behalf of the State and its mechanisms of (bio/necro) racial control, which are responsible for fostering a death policy, racial cleansing and the whitening of the Brazilian population. These hygienist and eugenic policies have perdured for centuries and left its mark as the production of political, material and symbolic vulnerabilities through actions, discourse, stigma, "omissions", and conditions where/when the Black body is considered despicable, disposable and killable, simultaneously violating their health, citizenship and dignity.

This denial of (such basic and fundamental) human rights through "negligence" of the State, which characterizes institutional racism, places the discussion on environmental racism in the power's arena. The same Black populations impacted by the State's "omission" are also excluded from the deliberative and decision-making spaces and processes of power, such as in the development and oversight of urban policies (environmental, health, and housing, among others) that are of interest to them.

Clearly, this political dispossession is also implicated in the material dimension, since this population also lacks the economic conditions that would allow environmental improvements in their homes or for them to live in places with basic sanitation infrastructure. This means that there is a double deprivation in experiences marked by environmental racism: the loss of power and the loss of material possessions. There is also a third dimension, which is symbolic and subjective, that is not explored in this article: the one regarding the stigmatizing discourses of "dirty, filthy, stinky" Black person, which is discussed by Jesus (2022) and Jesus and Penha (2023).

Furthermore, it is worth highlighting that this "negligence" is, in fact, the institutional and internalized racism itself. There is a self-abdication of responsibility by the state in its social role, aligned with (neo)liberal, but also colonial, perspectives, when the inhumane, unequal, exploitative and degrading logic of the state was already in force, to the detriment of the environment and Black and Indigenous populations. Therefore, it is not mere "negligence", nor does it happen by chance, unintentionally or unconsciously. It is a policy whose purpose is maintaining power and *status quo*, since there is objectivity, rationality and operationality in this institutional racism metamorphosed as "negligence". That is because, by neglecting the racial variable as a factor of inequality and a criterion for allocating public policies, racial inequalities remain unmeasured, thereby unaddressed, perpetuating and rendering invisible the colonial *continuum* of production and reproduction of institutional racism in its various facets.

In other words, the "negligence" of the social policies has been fed back by the academic and scientific "negligence", which turns this into a historical-social problem in Brazil, despite not reaching the sociological problem category in research. Even with a Black person dying every hour and a half due to lack of sanitation, our deaths have been silenced, made banal, naturalized and produced with consent (but no sentiment). Environmental racism and its impact in the environmental health of the Black population continue to be silenced in social science research on health and sanitation. And, as a mechanism for perpetuating institutional (and environmental) racism, it continues to escape scientific production and remains restricted to the actions of a few Black collectives in the country.

With that said, the lack of access to sanitation and mortality from DRSAI according to race are significant indicators of racial inequality that must be explored in programs, public policies and analyses, insofar as sanitation has been a privilege (and not a right) as well as a mechanism for racial control. Therefore, it is important that the PNSIPN includes the DRSAI in its scope of attention and action in a way that the relationship between race and DRSAI is considered as an indicator for measuring inequalities and a planning criterion for prioritizing the most unsanitary areas in decision-making for the allocation of public policies (of sanitation, health, and other social issues).

It is also essential to conduct quantitative and qualitative research that deepens this exploratory analysis, both on an everyday scale and at the local/regional level, whether through case studies or comparative analyses, whose temporal and spatial scope reveals the proportions of diseases and populations according to race. This also requires that the databases of national public institutions (such as the complete base of DataSUS and IBGE – subnormal clusters, the National Household Sample Survey (PNAD) and the Census, for example) make accessible the possibility of data analysis by color/race, which is still restricted or non-existent. This will make it possible to develop research and theories that make visible and broaden the understanding of the mechanisms of institutional and environmental racism.

Finally, there is an urgent need for perspectives and actions that place environmental racism and the environmental health in sanitation of the Black population on political and research agendas. Understanding the significance and the impact of sanitation on the health of the Black population, together with strengthening the social control of Black collectives and social movements in the decision-making and deliberative processes of policies that impact their living, housing, and working conditions, are urgent actions for reversing this historical pattern of racial inequities and inequalities. Therefore, guaranteeing the environmental health in sanitation of the Black population is a basic condition to realize Brazilian citizenship-democracy and human dignity for a population that still experiences the marks inflicted by colonialism within a fully functioning state, governed by the Democratic Rule of Law.

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CRediT authorship contributions

Victor de Jesus: Conceptualization; Formal analysis; Methodology; Writing – original draft; Writing – review & editing.