Brazilian scientific production on the health of the black population: a rapid scoping review

Abstract  The article presents a perspective on the Brazilian scientific production on the health of the black population (SPN) published in scientific journals. We performed a rapid scoping review combined with thematic and bibliometric analysis. Our search included four indexed databases. We retrieved 519 studies in line with the thematic axes and strategic underlying themes of the Agenda of Research Priorities of the Ministry of Health and the guidelines of the National Policy for the Comprehensive Health of the Black Population. The data mainly returned quantitative studies published from 1969 to 2022. Sixty-five of the selected studies were explicitly about the black population and 54 about the quilombola population. The analysis of the most recurrent terms in the titles of the selected studies evidenced that epidemiological aspects and health and disease conditions prevailed. We observed limitations in the currently available indexing descriptors, which do not cover the most conceptually appropriate terminology. This paper consolidates knowledge about the SPN-related scientific production. It supports the discussion on a propositional priority research agenda to improve health policies for this population, overcome racism, and denounce rights violations.

Key words  Black population, Health, Scoping review, Bibliometrics, Brazil
Introduction

In Brazil, the self-declared black population, characterized by the sum of male and female blacks, blacks and browns, represents the majority of Brazilians. Over time, this stratum repeatedly displays the worst living conditions/disease/death indicators, re-edited in the COVID-19 pandemic figures and resurgent hunger and extreme poverty.

Studies and analyses that adopt an ethnic-racial perspective relate the impact of the social construction of historical racism in the country on sociodemographic, schooling, income/work, housing, lifestyle, violence, and education conditions. Before this reality, investigations into specific groups of indigenous black populations, their territories, habits, customs, values, and religious beliefs, and aspects related to health conditions and access to this right are fundamental to achieving equity and full exercise of democracy, given that they enable actions, regulations, and strategies to combat the abysmal inequalities in Brazil, mainly in health, which is the hallmark of the National Policy for the Comprehensive Health of the Black Population (PNSIPN).

However, there is still a need to improve the dissemination of public policies related to this population group in society, as Brito et al. pointed out in a systematic review on public policies that mediate access to health services for black women and men. The authors conclude that public policies were insufficient to meet the needs of this stratum within healthcare. This finding corroborates the thesis that dismantling the barriers imposed by racism is a central issue in securing access to the right to health.

In the U.S. scenario, Krieger emphasizes the need for structural interventions as prerequisites for the changes necessary in the search for equity. To this end, it recommends incorporating the perspective of racialized groups into all the production of health information and scientific knowledge when financed by the government. As a second recommendation, it proposes comparing health data at an individual level from the perspective of racialized groups, emphasizing social inequality. Both recommendations have been included in 2009 in the general PNSIPN guidelines in the national context. The six guidelines of this policy are:

1) including racism and health of the black population in the formation and continuing education process; 2) expanding and strengthening the participation of the black social movement in the health policies social control bodies; 3) promoting the recognition of folk health knowledge and practices, including those preserved by African-based religions; 4) monitoring and evaluating the actions relevant to the fight against racism and the reduction of ethnic-racial inequalities in the different governmental spheres; 5) encouraging the production of scientific and technological knowledge in the health of the black population; and 6) developing information, communication, and education processes that deconstruct stigma and prejudice, strengthening a positive black identity that narrow down vulnerabilities.

Thus, the production of scientific knowledge on the health of the black population is a substantial supporting element for the continuous improvement of the PNSIPN, the overcoming of racism, and the denunciation of violations of the rights to health and life, contributing to the prospect that collective health research is a social transformation tool.

In the history of initiatives to prioritize issues involving the health of the black population, in November 2003, a group of experts in this area participated, in Brasilia, in the Seminar for the Construction of the National Agenda of Research Priorities. This agenda was submitted to public consultation and presented at the Second National Conference on Science, Technology, and Innovation in Health. The National Health Council endorsed its final text at a meeting held in February 2005. In 2012, researchers, managers, leaders of social movements, and representatives of the Department of Science and Technology of the Ministry of Health (DECIT-MS) held the First National Meeting of Researchers in the Health of the Black Population, which mapped research priorities in the health of the black population and defined the themes for building a research notice, performed by DECIT in 2013. Finally, in 2018, the Ministry of Health gathered its technical areas and listed 172 research lines grouped into 14 axes, including the health of the black population and traditional communities.

Previously, DECIT launched two thematic public notices (2006 and 2013) and promoted 18 Public Notices for SUS Research (PPSUS) on the black population health issues, making a total of 54 research projects supported and an investment of approximately 4.8 million reais. It is worth noting that the Research Support Foundation of the state of Bahia (FAPESB) launched two specific calls for the health of black women and men and sickle cell disease.

Although the Ministry of Health’s Research Priorities Agenda mentioned above has been an inducer of SUS studies, the translational research
in this field still needs to be consolidated in the country, considering that it can overly contribute to the advancement of health policies, providing greater approximation between the knowledge produced and its application to individuals and society\(^1\). Furthermore, considering the contribution of resources for research in the health of the black population, it is necessary to know how the production of this knowledge has been carried out and, more so, its repercussions, to strengthen the PNSIPN and the Unified Health System and guarantee the right to health for black women and men.

Sixteen years into the launch of the first research notice, knowledge about the health of the black population, per the matrix inherent to the PNSIPN\(^6\), must be systematized and analyzed. This exploratory study is justified by the need to address the persistent gaps in national investigations in this field to identify and share state-of-the-art on the subject and support the discussion on the respective research agenda by funding and research institutions. This work aimed to map this production.

**Methods**

**Design and inclusion and exclusion criteria**

A quick scoping review was conducted to map the Brazilian scientific production on the health of the black population. A review protocol was previously prepared and registered in the Open Science Framework\(^14\). We adopted the Joanna Briggs Institute manual\(^15\) as the methodological framework for developing the review.

The research question was "What is the thematic profile and academic collaboration of scientific production in public health in Brazil on the health of the black population?", whose starting point was acronym "PCC" (population: black population; concept: Brazilian scientific production; and context: public health).

We included primary and secondary studies, experience reports, and theoretical essays on the subject, produced by Brazilian researchers as principal authors or co-authors and published in Portuguese, Spanish, or English in scientific journals, with no restriction concerning the date of publication.

Articles that addressed any public health issues related to the black population and the PNSIPN were eligible. We excluded genetic and anthropometric studies that did not directly or indirectly articulate their discussions with national policy themes, books, collections or book chapters, theses, dissertations, monographic works, symposium or conference reports, technical manuals, articles whose abstracts were inaccessible, studies of a narrative literature review or whose methodologies, results, or conclusions did not directly or indirectly address the black population, and studies with no participation of Brazilian researchers or Brazilian populations or published in languages other than those mentioned.

**Search strategies and study selection**

We conducted the search in April 2022 in the Regional Portal of the Virtual Health Library (BVS), PubMed, Web of Science, and Scopus databases. The structured search was adapted for each database based on the following basic descriptors: "black population" and "public health". The detailed search can be found in Appendix 1 of the supplementary material (available from: https://doi.org/10.48331/scielodata.F9KDBK). The search strategies were designed and performed by an experienced librarian.

Two independent authors selected the articles based on the defined inclusion and exclusion criteria, considering the health axis of the black population of the Agenda of Health Research Priorities (Chart 1)\(^10\). After excluding duplicates, screening was performed by reading titles and abstracts, using the bibliographic manager Rayyan QCRI\(^16\), and two other evaluators with expertise in the subject checked this process. Any disagreement was resolved by consensus.

**Data extraction and analysis**

Data from the included studies were initially extracted into an electronic spreadsheet containing the title, abstract, year, and journal in which they were published, with the names of authors and co-authors. Afterward, the following data were extracted from the abstracts: i) study design, ii) population of interest, iii) central theme of the study and its approaches, iv) PNSIPN-related guidelines, and v) financial support, keywords, and outcomes observed regarding the black population. Data was not extracted in duplicate but carried out individually by four reviewers and checked by a fifth reviewer. The findings were synthesized descriptively.
Study quality evaluation

The methodological quality of the included studies was not assessed as this was not part of the exclusion criteria. This step is optional in the scoping review17.

Analysis of co-authorship and association of terms used in article titles

We conducted a complementary analysis of the bibliographic data of the selected studies to characterize the co-authorship relationships and the most recurrent terms in the titles. The free software VOSviewer18 was used to generate the network graphs in this analysis, based on the strength of association between the two analysis units of interest (authors and title words). The following inclusion criteria were considered for the co-authorship network: i) authors who were part of the authorship of more than one article; ii) authors with co-authorship; and iii) authors with a strength of association greater than zero (automatically calculated by the VOSviewer, following the methods described by Van Eck and Waltman19). For the lexical network of titles of selected articles, the inclusion criteria were i) terms with five or more occurrences and ii) terms with a strength of association greater than zero (automatically calculated by VOSviewer).

The results were presented as network graphs, enabling visual inspection and identification of the association characteristics of the resulting networks. These graphs visually present the following information: i) nodes (individual authors and terms); ii) connections (co-authorship and co-occurrence); and iii) metrics (proximity, represented by the location of nodes in the network, and strength of association, given by the bubble’s size and the connecting line’s thickness).

Results and discussion

Three hundred fifty-one of the 1,527 records identified in the databases were excluded due to duplicity, and 1,176 records were evaluated, of which 604 were excluded after reading the title.
and abstract as they did not meet the eligibility criteria. Thus, 572 eligible reports were reanalyzed in a new round of reading the abstracts, or even the full article, after which 53 were additionally excluded. Thus, 519 publications were included in this scoping review. The list of included studies is presented in Appendix 2 of the supplementary material (available from: https://doi.org/10.48331/scielodata.F9KDBK).

**Publication per year and journal**

The included studies were published between 1969 and 2022 (Graph 1). This production is asymmetrically distributed in the period, with an increase from 2005, reaching its apex in 2018, with 48 (9%) publications, followed by a decline in 2019 and 2020 and a new upward swing in 2021, during the COVID-19 pandemic. Two hundred sixty-two of the total number of articles analyzed were published in international journals and 272 in Brazilian journals.

Cadernos de Saúde Pública stood out with the highest number of papers published on the health of the black population (n = 54, 25.1%), followed by Ciência & Saúde Coletiva (n = 42, 19.5%). Internationally, PlosONe was the international journal that most published studies on the health of the Brazilian black population (n = 8, 3.7%). Publications were also identified in other international journals, such as Community Dental and Oral Epidemiology and BMC Infectious Disease, with five publications each (2.3%), and Ethnicity & Disease (n = 7, 3.3%).

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![Figure 1. Flowchart of the study selection process.](image)

Source: Authors, based on PRISMA19.

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(*Faltou citar Figure 1 no texto*)
ternationalization of the Brazilian black population's health theme occurred basically through these four journals.

**Study designs**

Regarding the methodological design, 457 (88%) works were quantitative (cross-sectional, cohort, case-control, and ecological), 33 (6%) were qualitative (ethnography), 24 (5%) were reviews (narrative, systematic, integrative), and 5 (1%) were quantitative and qualitative. Quantitative studies, therefore, account for most study designs.

Regarding the population studied, we observed the following individual articles: general population, 95 articles (18.3%); black population, 65 (12.5%); quilombola population, 54 (10.4%); adults, 31 (5.9%); and children, 16 (3.0%). The works were distributed into women's health, mortality, oral health, hypertension, HIV/AIDS, cardiovascular diseases, violence and accidents, nutrition, and kidney diseases (Table 1).

The black men and women health articles discuss cardiovascular diseases, HIV/AIDS,quilombola populations discuss arterial hypertension, hepatitis, food insecurity, and women's health.

When analyzing the population studied, the themes, and their interface with the PNSIPN guidelines, we identified 195 (37.6%) articles that dialogued with the guideline “Implementation of the process of monitoring and evaluating the relevant actions to combat racism and curbing racial and ethnic inequalities”.

When analyzing the interface of the selected articles with the axis “Health of the black population of the National Agenda of Health Research Priorities”, the works respond to the different underlying themes of “Magnitude and dynamics of problems related to the health of the black population”. This specific aspect could be the object of further analysis in a specific study.

**Evidence of the Brazilian production**

The studies included in this review were analyzed concerning the PNSIPN guidelines and from the thematic axes and strategic underlying themes for the health of the black population from the National Agenda of Health Research Priorities. Some articles used the category of eth-
nicity/skin color without comparing the concept of ethnicity in the social context, which hinders a greater clarity and visibility of a wide range of issues about the impact of racism on health. In general, the strategy used by black leaders to discuss the racial theme in health was to include skin color in the information systems but always consider its articulation with the theme of equity, to uncover its inequalities. The titles and abstracts of the selected articles presented a variety of terms ranging from “race/color” to “race/color ethnicity” and “race/skin color” – the latter may be in contradiction with historical feminists when they thought about the “color” to bring to the fore the social dimensions of health inequalities. In this sense, recommendations for adopting the “race/color” in the titles and descriptors of health publications would be appropriate.

Most studies are observational and use health indicators for the black population through public health information systems, to the detriment of clinical or evaluation studies. Hence, the methodological approach used can supposedly interfere with the confidence in the presented findings. Evidence indicates that decision-makers cite the lack of effectiveness analyses regarding the effects on equity in health, which may be an important limitation of supporting elements for political decision-making and equity-focused programs.

Studies confirm persistent racial inequalities in health based on analyzing the ethnicity/skin color variable in health information systems. As a contribution to the translation of this knowledge, one can consider establishing a monitoring panel, referring to the focus population to make consolidated data available on a single, publicly accessible, multi-user, and dynamic platform, which can support scientific production and decision-making and, above all, access to information by different institutions, representatives of civil society and the population. This solution was also presented as a recommendation by the ABRASCO Racism and Health Working Group. It would work as a tool for monitoring and evaluating the health of the black population and the PNSIPN.

Another aspect is the study of eligible pathologies to evaluate the implementation of the black population health policy, such as health care programs for people with sickle cell disease. Specifically, this pathology is, for example, strategic, and the number of live births with the diagnosis is an indicator. Sickle cell disease is a hereditary hematological disorder linked to African ancestry and profoundly traversed by racism since it affects mostly Brazilian black women and men. Power-Hays and McGann state that the social construction of race requires that most people with this pathology face the consequences of a health condition and a society where skin color is often an unfair disadvantage.

These same authors reflect on the persistent high mortality and morbidity rates of people with sickle cell disease, conditioned by the patients’ lack of access to health systems and multidisciplinary care in a qualified, continuous, and comprehensive manner. They conclude by questioning the lack of funding for public policies and studies, research, and the production of technol-

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<th>Themes</th>
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<tr>
<td></td>
<td>General (n)</td>
<td>Black (n)</td>
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<tr>
<td>Women's health</td>
<td>54</td>
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<td>Mortality</td>
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<td>Oral health</td>
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<td>Arterial hypertension</td>
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<td>HIV/AIDS</td>
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<td>Cardiovascular diseases</td>
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<td>Violence and accidents</td>
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<td>Nutritional aspects</td>
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<td>Kidney diseases</td>
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Note: More than one population was studied in some publications.

Source: Authors.
logical innovation for this population group. In part, the agenda of priorities responds to this call when it makes resources available to induce the production of scientific knowledge, even more so in two specific thematic public notices in Bahia, the state of the federation with the highest number of sickle cell disease cases, and this substantiates the PNSIPN guidelines.

Our results showed that many studies on sickle cell disease did not even mention that the disorder is more prevalent in the black population, nor did they address the noticeable health inequalities in access to services or even specific care. Most approach the health issue without comparing the social perspective of people with sickle cell disease, not even as service users.

Evidence shows that stigma, depression, barriers to accessing health services, and medicines that prevent the adherence of children and adolescents with sickle cell disease and weaken the family support network are the main problems related to the approach to the disease and the quality of life of its carriers. They are also as impactful as the issues inherent to the disease itself, such as complications or hospitalizations. Berghs et al. emphasize the need to incorporate the concept of social determinants in health in low and medium economic development countries and, from there, consider the relevance of the adverse impact of racism in its different dimensions as a strong inducer of sickle cell disease inequalities. Without considering such perspectives, studies whose investigations are limited to genetic and anthropometric markers hardly contribute to the translation of knowledge as a guideline of the PNSIPN. On the contrary, they are quantitatively well represented in this review and the calls for tenders referring to the National Agenda of Health Research Priorities.

We identified several gaps regarding the production of knowledge on the health of the Brazilian black population, whose visibility is characterized by the volume of publications and the political proposition consolidated in the agenda of priorities and the PNSIPN matrix. The following stand out: the need for studies on interventions; secondary analytical studies; systematic reviews to inform the level of evidence and recommendations; and studies of indication/applicability of strategies that can be implemented to reduce health inequalities practically and in dialogue with health training curricula. Finally, we have not seen any studies addressing environmental issues and health and transport and health.

**Co-authoring network analysis**

We conducted the bibliometric analysis of the co-authorship network of the articles included in this review to characterize the research collaboration network related to the subject population. The analysis considered all documents included in this research, adopting the authors’ names as the analysis category to estimate the strength of association of each component of this network.

Figure 2 shows the complete co-authorship network of selected studies, including 2,480 individual authors. We could observe that it has more isolated co-authorship groups than interconnected groups, although central groups that interconnect and connect with other smaller groups stand out.

We verified how the groups with the most significant number of connections in the network relate to each other to study further the visualization of the co-authorship network with greater collaboration. Two hundred twenty-six authors (9.1% of the total) of the total sample of authors had more than one publication; of these, 204 (8.2%) had an association strength greater than zero, and were considered for the analysis presented in the following figure, which also denotes the existence of more isolated co-authorship groups than groups associated with each other among authors with more publications. The bubble size represents each author’s strength of association.

The results of the analysis of the scientific collaboration network, represented by the co-authorship in the production of the articles included in this review, showed that the research network on the health of the Brazilian black population is broad and consists of a large number of groups that published articles but are dispersed, and, in general, not interconnected. A smaller number of groups interacted to form clusters of collaboration centers, also to characterize some authors acting as connection hubs between other authors and groups in the analyzed co-authorship network. Such findings inspire reflection on the need for incentives for greater interaction and collaboration within the scope of the theme in Brazil so that the most consolidated and productive groups can support and boost those undergoing consolidation.

**Analysis of recurring words in article titles**

Regarding the associations between recurrent terms in titles and abstracts, 1,625 individ-
nal terms were identified, of which 84 had at least five occurrences. In the association network formed by recurrent terms, shown in Figure 3, we observed that the largest clusters of terms are related to epidemiological aspects and health conditions and diseases (e.g., disease, patient, polymorphism, mortality, cancer). On the other hand, some terms relate to population, social, and cultural aspects (such as quilombo, community, violence, and context).

The analysis of the most recurrent terms in the titles of the articles included in this review showed that epidemiological themes and those related to diseases and health conditions prevailed. However, terms that suggest the cultural and social contextualization of these elements were also found in the analysis, triggering a reflection on the balance between these elements and themes in studies on the health of black women and men in the country.

The starting point of a bibliographic search is the selection of descriptors and keywords that characterize the subject regarding the research question. Therefore, generalizations, or even the lack of terms, especially subject descriptors, adequately define the researched topic related to the studied population groups, their habits, customs, and values, ratifying a discriminatory process. They also limit the production of scientific knowledge through thematic invisibility, which negatively impacts public policies.

This study found that the search keys used descriptors that do not conceptually address the terminology more adequately. Cruz believes that words should establish clearly demarcated concepts instead of vague concepts with disparate meanings, which was pointed out by Ribeiro et al. to refer to the definition of race and other concepts related to the black population. In the specific theme of the black population, some recommendations are made to use the terms properly. Flanagin et al. affirm that terminology, use, and word choice are critical since inclusive language supports diversity and conveys respect, which points to the urgent need to update the indexing databases through their controlled vocabularies to ensure representativeness of all population groups.

**Final considerations**

This study has some limitations. First, because it is a quick review. Also, although structured and comprehensive, the search and selection process may not have reached all of the relevant research. Another point is that it did not include academic literature, such as theses.
Another limitation may arise from the thematic analysis, which was limited to titles and abstracts, leading to inaccuracies due to the possible insufficient information. Finally, the bibliometric analysis was based on data extracted directly from records exported from the indexed databases and was not checked for consistency and completeness of the information.

Although the scientific production evidenced racial health inequalities for the black population, we identified much room for improving the translation of knowledge concerning the PNSIPN and mainly regarding the other policies considered by the National Agenda of Health Research Priorities. The question remains about them: what does this produced knowledge require to be assumed as an object of interest, incorporated as knowledge, and translated into effective results? This should be the practice, as the black population represents most of the Brazilian population. Assuming the PNSIPN traverses other policies to structure them would bring, as an image-objective, facilitating health for the entire Brazilian population and, as a goal, irremediably affecting the change of the current setting in search of equity, and the latter would definitely and undisputedly be the priority agenda.

This quick scoping review corroborated the thesis that producing scientific knowledge on the health of the black population in Brazil has notable strengths, weaknesses, and gaps. If, on the one hand, most publications report a given health condition of black women and men, on the other, it is mainly measured from an epidemiological perspective, often without a critical racial reflection. Furthermore, this review strongly points to the need to advance toward studies that are not limited to proving racial inequalities but that, above all, provide the opportunity to translate knowledge and propose solutions to overcome this backdrop.

Fifty-two years into the first scientific publication on the health of the black population, the challenge of translating knowledge and asking questions about the teleology of emerging scientific production persists. What is actually being produced? And for whom is it producing? Such questions can guide a future perspective for the necessary transformation that reduces the impacts of historical racism on the health of Brazilian black women and men.

Our results also showed that a broad discussion is urgent to change scientific praxis towards a translational science, which effectively estab-
lishes itself as an eminently anti-racist democratic movement and promotes equity. Finally, this article contributes to consolidating the scientific knowledge produced by Brazilian researchers on the health of the black population. The respective thematic analysis points toward a priority propositional research agenda, increasing the production of scientific knowledge to improve the PNSIPN, overcome racism, and denounce rights violations.

Collaborations

All authors contributed equally to the project’s design, data analysis, and interpretation, writing the article, critically reviewing the relevant intellectual content, and the final approval of the version to be published. Thus, they are equally responsible for all aspects of the work and the accuracy and completeness of any part of the paper.

References


