

Aspectos clínicos, capacidade funcional e qualidade de vida de indivíduos negros pós revascularização do miocárdio: protocolo de revisão sistemática

Clinical aspects, functional capacity, and quality of life of Black individuals after myocardial revascularization: systematic review protocol

Aspectos clínicos, capacidad funcional y calidad de vida de individuos negros después de la revascularización del miocardio: protocolo de revisión sistemática

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RESUMO

Objetivo: apresentar o protocolo de revisão sistemática acerca dos aspectos clínicos, da capacidade funcional e da qualidade de vida de indivíduos negros submetidos à revascularização do miocárdio. **Métodos:** protocolo de revisão sistemática registrado no PROSPERO (CRD420251185667). Bases consultadas: PubMed, MEDLINE, LILACS, SciELO, PEDro, Web of Science e Cochrane Library. Incluídos ensaios clínicos randomizados e não randomizados publicados entre 2015 e 2025 que apresentem análise ou estratificação dos resultados categorizados por raça/cor. A qualidade metodológica dos estudos será avaliada por meio da ferramenta RoB 2. Os resultados serão organizados e apresentados através da sua síntese.

Descritores: Revascularização Miocárdica; Reabilitação Funcional; Capacidade Funcional; Populações Vulneráveis; Qualidade de Vida

ABSTRACT

Objective: to present the systematic review protocol regarding the clinical aspects, functional capacity, and quality of life of Black individuals undergoing myocardial revascularization. **Methods:** Systematic review protocol registered in PROSPERO (CRD420251185667). Databases consulted: PubMed, MEDLINE, LILACS, SciELO, PEDro, Web of Science, and Cochrane Library. Included were randomized and non-randomized clinical trials published between 2015 and 2025 that present analysis or stratification of results categorized by race/color. The methodological quality of the studies will be evaluated using the RoB 2 tool. The results will be organized and presented through their synthesis.

Descriptors: Myocardial Revascularization; Functional Rehabilitation; Functional Capacity; Vulnerable Populations; Quality of Life.

RESUMEN

Objetivo: presentar el protocolo de revisión sistemática sobre los aspectos clínicos, la capacidad funcional y la calidad de vida de individuos negros sometidos a revascularización miocárdica. **Métodos:** protocolo de revisión sistemática registrado en PROSPERO (CRD420251185667). Bases consultadas: PubMed, MEDLINE, LILACS, SciELO, PEDro, Web of Science y Cochrane Library. Se incluyeron ensayos clínicos aleatorizados y no aleatorizados publicados entre 2015 y 2025 que presenten análisis o estratificación de los resultados categorizados por raza/color. La calidad metodológica de los estudios será evaluada mediante la herramienta RoB 2. Los resultados se organizarán y presentarán a través de su síntesis.

Descriptores: Revascularización Miocárdica; Rehabilitación Funcional; Capacidad Funcional; Poblaciones Vulnerables; Calidad de Vida.

Introduction

Cardiovascular diseases (CVDs) remain the leading cause of death worldwide, accounting for approximately one-third of all global deaths. Despite the diagnostic and therapeutic advances achieved over recent decades, the benefits of these interventions have not been distributed equitably across different population groups. Evidence indicates that social, economic, and racial factors significantly influence the incidence, clinical management, and outcomes of cardiovascular diseases, particularly among historically marginalized populations. Furthermore, factors such as low income, limited educational attainment, and barriers to accessing healthcare services contribute to the persistence of these disparities.^{1,2}

In Brazil, the Black population experiences higher rates of cardiovascular morbidity and mortality than the White population. This scenario results from the interaction of biological and behavioral factors and, above all, social determinants of health, which contribute to inequalities in access to healthcare services, early diagnosis, and continuity of care. Studies indicate that Black individuals frequently experience poorer socioeconomic conditions, greater exposure to cardiovascular risk factors, and reduced access to preventive and rehabilitation services.^{3,4}

Understanding these disparities requires incorporating the concept of structural racism as a social determinant of health. Structural racism operates systematically through the organization of institutions and social opportunities, producing both direct and indirect effects on the health-disease process. Within healthcare systems, structural racism manifests through inequalities in access to services, lower quality of care, the invisibility of the specific needs of the Black population, and racial underrepresentation in political decision-making spaces and scientific research. Moreover, chronic exposure to racial discrimination is associated with increased psychosocial stress, which may contribute to neuroendocrine and inflammatory alterations related to the development of cardiovascular diseases. In this context, Bento (2022)⁵ highlights that the historical preservation of racial privilege, referred to as the “pact of whiteness,” contributes to the perpetuation of social and health inequalities, influencing scientific knowledge production and the development of public policies targeting the Black population.

In addition to affecting access to healthcare services, structural racism also influences clinical outcomes following cardiovascular events and complex therapeutic procedures. International evidence indicates that Black individuals are more likely to experience cardiovascular complications, hospital readmissions, and persistent functional limitations, even when receiving treatments comparable to those provided to other racial groups. These differences suggest that health equity depends not only on the availability of medical technologies but also on reducing the social and institutional barriers that affect the provision of comprehensive care.^{6,7}

Functional capacity and quality of life are particularly relevant outcomes in the cardiovascular context, as they reflect not only the clinical progression of the disease but also individuals’ social reintegration and autonomy following therapeutic interventions. Reduced functional capacity is frequently associated with increased physical dependence, poorer clinical prognosis, and a higher risk of hospital readmission. In this context, cardiac rehabilitation programs play an essential role in patients’ physical, psychological, and social recovery. However, research indicates that factors related to race/ethnicity, income, educational attainment, and access to rehabilitation services may negatively affect these outcomes, thereby widening the disparities observed among population groups.^{8,9}

Given this scenario, it is essential to develop research protocols that explicitly incorporate racial considerations into the assessment of cardiovascular outcomes. The generation of evidence capable of identifying factors associated with health disparities may support the development of more equitable prevention, treatment, and rehabilitation strategies, contributing to the reduction of racial inequities and to the strengthening of the principles of universality, comprehensiveness, and equity that guide Brazil's Unified Health System (Sistema Único de Saúde – SUS).^{10,5}.

Methods

This is a systematic review protocol that was publicly registered in the International Prospective Register of Systematic Reviews (PROSPERO) under registration number CRD420251185667. The purpose of this protocol is to ensure transparency in the conduct of the proposed research and to prevent duplication of efforts by providing a detailed description of the research question, eligibility criteria, search strategies, information sources, and procedures for data analysis and presentation.

The overall structure of this protocol was developed in accordance with the methodological guidance provided by the Joanna Briggs Institute (JBI)¹¹ and The Cochrane Collaboration.¹²

The systematic review will be conducted and reported in accordance with the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement.¹³

Structure of the Research Question

With the aim of identifying studies that assess aspects related to coronary or peripheral revascularization surgery, with a racial focus that includes Black patients; describing the main clinical outcomes reported in the studies, such as complications, mortality, and associated comorbidities; identifying levels of functional capacity and quality of life; and discussing the implications of these findings for cardiovascular rehabilitation, the understanding of healthcare delivery, and the promotion of racial health equity, the research question guiding this review was structured according to the PICOS framework: P = Population; I = Intervention; C = Context; O = Outcomes; and S = Study design, referring to the types of studies included in this review.¹¹ The information corresponding to each criterion is presented in Table 1.

Table 1 – Structure of the Research Question. Salvador, BA, Brazil, 2025.

Population (P)	Adults (Black individuals)
Intervention (I)	Myocardial revascularization (complete or incomplete)
Context (C)	Postoperative period following myocardial revascularization
Outcomes (O)	Postoperative complications, length of hospital stay, mortality, associated comorbidities, level of independence in walking, return to activities of daily living (ADLs), and quality of life
Study Design (S)	Randomized and non-randomized clinical trials

Studies conducted in hospital settings or outpatient postoperative settings will be considered. All studies that include racial or ethnic data will be eligible for inclusion, regardless of the nationality of the study population.

Inclusion and exclusion criteria

The eligibility criteria for study inclusion in this review will be as follows: (a) studies investigating adults who self-identify as Black and who underwent complete or incomplete myocardial revascularization; and (b) studies published and available in English, Spanish, or Portuguese. The time frame considered will extend from January 2015 to November 2025.

Studies involving Black individuals younger than 18 years of age will be excluded.

Search strategies

The main databases to be searched will be the Cochrane Central Register of Controlled Trials (CENTRAL), the Cochrane Library, the Latin American and Caribbean Health Sciences Literature database (LILACS), MEDLINE, and PubMed. Other relevant or specialized databases to be searched will include SciELO, the Physiotherapy Evidence Database (PEDro), and Web of Science.

Additional studies may be identified through citation searching, including forward citation searching, or by screening the reference lists of studies included in the review.

The search strategy will follow the three-step process recommended by the JBI.¹¹ The first step consists of identifying keywords and developing a logical framework based on knowledge of the research field, which will initially guide the search process and support the formulation of specific search strategies for each database. The second step involves conducting the searches in each of the databases specified in the protocol. The third step consists of reviewing the reference lists of all retrieved studies for further assessment and the identification of additional studies for potential inclusion.

Descriptors suggested by the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH) platforms will be combined using the Boolean operators "AND" and "OR". Thus, the following combination will be used: "Myocardial Revascularization" AND ("African Continental Ancestry Group" OR "Black People") AND ("Functional Capacity" OR "Functional Status" OR "Postoperative Complications") AND "Quality of Life". Each database will be searched by adapting these descriptors according to its specific search filters. The search strategies will be described in the systematic review manuscript.

Data extraction and study selection

After the searches, all retrieved studies will be exported to Rayyan Web¹⁴ for the identification and removal of duplicates, followed by the organization of publications and study selection according to the eligibility criteria. The selection process will be performed through the screening of titles and abstracts by two independent reviewers.

An additional independent reviewer will be involved in cases where uncertainty arises regarding the inclusion of a particular study and an additional opinion is required.

Data analysis and presentation

The systematic review will synthesize the main outcomes, including postoperative complications, length of hospital stay, mortality, and associated comorbidities. Additional outcomes will also be presented, including level of walking independence, return to activities of daily living (ADLs), and quality of life. All extracted data will be organized into Tables 1 and 2.

Table 1 will present the characteristics of the included studies, including authors, year of publication, study population (sex, race/ethnicity, age, and functional profile), study objectives, and methodology. Table 2 will present the main and secondary findings, including information regarding clinical complications, mortality, comorbidities, and functional aspects, such as walking independence, return to activities of daily living (ADLs), and perceived quality of life (when available in the included studies), in addition to the authors' final considerations.

Study assessment

The data will be independently assessed by at least two reviewers (or a human/machine combination), with a predefined process established to resolve disagreements.

Additional information will not be requested from study authors if the required data are unclear or unavailable in the published articles or study reports.

The quality of the selected studies will also be assessed using the risk of bias assessment tool proposed by the Cochrane Collaboration, the Risk of Bias 1 (RoB 1) tool.¹⁵ After the assessment of each included study, the data obtained from this tool will be presented in figures/graphs, including two distinct components: a "traffic light" plot showing domain-level judgments for each individual outcome (Figure 2); and a weighted bar graph illustrating the distribution of risk-of-bias judgments across each bias domain (Figure 3).

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Data availability statement

The data from this study are stored by the authors, and data sharing is not available.

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