



What is the health impact of COVID-19 among Black communities in Canada? A systematic review

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Abstract

Objective The objective of this systematic review was to identify the health impact of COVID-19 on mortality, morbidity, hospital admission, and hospital readmission rates in the Black population across Canada.

Methods A comprehensive search strategy consisting of relevant subject headings and keywords was executed in five databases: OVID Medline, OVID Embase, EBSCO CINAHL Plus, Web of Science, and Scopus. Additional searches were conducted for gray literature in ProQuest Dissertations and Theses Global, Google Scholar, and an advanced customized Google search for Canadian government documents. All eligible studies included in this review underwent quality assessment.

Results Clinical health outcomes identified included mortality, morbidity, and hospital admission rates; none of the studies reported hospital readmission rates. The search identified 616 citations, and following the removal of duplicates and screening according to our inclusion/exclusion criteria, four articles were eligible for inclusion in the review. All of these studies were conducted in Canada. Study dates ranged from 2020 to 2021.

Conclusion A systematic review of studies on the impact of COVID-19 on the Black population in Canada highlights two key points. First, the collection and availability of race-based data are necessary to clarify the impact of COVID-19 and other diseases on Black populations in Canada. Second, with the limited available data, studies suggest that COVID-19 disproportionately impacts Black populations in Canada, making up high shares of cases, deaths, and hospitalizations compared to most of the population.

Résumé

Objectif L'objectif de cette revue systématique était d'identifier l'impact de la COVID-19 sur les taux de mortalité, de morbidité, d'admission à l'hôpital et de réadmission à l'hôpital dans la population noire au Canada.

Méthodes Une stratégie de recherche complète composée des vedettes-matières et des mots-clés pertinents a été exécutée dans cinq bases de données : OVID Medline, OVID Embase, EBSCO CINAHL Plus, Web of Science et Scopus. Des recherches supplémentaires ont été effectuées pour la littérature grise dans ProQuest Dissertations and Theses Global, Google Scholar et une recherche Google personnalisée pour les documents du gouvernement canadien. Toutes les études éligibles incluses dans cette revue ont fait l'objet d'une évaluation de la qualité.

Résultats Les résultats de santé cliniques identifiés comprenaient les taux de mortalité, de morbidité et d'admission à l'hôpital; aucune des études n'a rapporté de taux de réadmission à l'hôpital. La recherche a identifié 616 citations et à la suite de la suppression des doublons et de la sélection selon nos critères d'inclusion/exclusion, quatre articles étaient éligibles pour l'inclusion dans la revue. Toutes ces études ont été menées au Canada. Les dates des études allaient de 2020 à 2021.

Conclusion Une revue systématique des études sur l'impact de la COVID-19 sur la population noire au Canada met en évidence deux points clés. Premièrement, la collection et la disponibilité de données fondées sur la race sont nécessaires pour mieux

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comprendre l'impact de la COVID-19 et d'autres maladies sur les populations noires au Canada. Deuxièmement, avec les données disponibles, les études suggèrent que la COVID-19 a un impact disproportionné sur les populations noires au Canada, représentant des proportions élevées de cas, de décès et d'hospitalisations par rapport à la plupart de la population.

Keywords COVID-19 · Mortality rate · Morbidity · Hospital admission rate · Hospital readmission rate · Race-based data

Mots-clés COVID-19 · taux de mortalité · morbidité · taux d'admission à l'hôpital · taux de réadmission à l'hôpital · données basées sur la race

Introduction

The Black population in Canada experiences disparities in health outcomes across a range of health problems, including chronic diseases, infectious diseases, and mental health and addictions (Black Health Alliance, n.d.). In the context of COVID-19 in Canada, areas with higher shares of Black populations, such as Montreal and Toronto, tend to have higher cases and deaths due to COVID-19 (Denice et al., 2020). Population density could explain the higher rates of cases and deaths; however, although Black populations account for a smaller percentage of the population in Toronto and Montreal, areas with higher shares of Black populations still make up higher proportions of COVID infections (City of Toronto, 2020; Denice et al., 2020).

Differences in health outcomes in the Black population in Canada could be explained by the risk inherent in their social circumstances. Race is often misconstrued as a biological factor; however, it is a social construct that has real biological consequences due to racism and other prejudices in a particular racial or ethnic group (Fuentes et al., 2019; Lee, 2009). Studies show that regardless of the health indicator, racism as interpersonal violence, institutional discrimination, or societal prejudice independently negatively impacts physical and mental health (Karlsen & Nazroo, 2002; Williams et al., 2003).

In Canada, anti-Black racism stemming from historical slavery roots, and systemic and institutional discrimination, have contributed to the health inequalities faced by diverse Black communities (Public Health Agency of Canada, 2020). These key drivers influence the accessibility and availability of health services, resources, and opportunities (Public Health Agency of Canada, 2020). Moreover, the deeply entrenched discrimination against Black people is reflected in Canadian institutions, policies, and practices. For instance, when biomedical researchers construct and analyze race in their studies, the influence of anti-Black racism and discrimination is often missing when interpreting differences in health (Lee, 2009; Public Health Agency of Canada, 2020).

In the United States, race and ethnicity are acknowledged as risk markers for other social determinants that affect health, including socioeconomic status, occupation, and access to health services (CDC, 2022; National Research Council

(US) Panel on DHHS Collection of Race and Ethnic Data et al., 2004). The collection of race-based data in the case of COVID-19 reveals important disparities between case (1.1x), hospitalization (2.3x), and death (1.7x) rates among Black or African Americans compared to white persons (CDC, 2022).

In Canada, hospitals do not collect race-based data, there is a lack of primary research on Black populations, and there is a delay in the publication of new knowledge production (Blair et al., 2021). Based on the similar social circumstances that Black communities face across North America, it is valuable to investigate whether similar health outcomes of COVID-19 exist in this population across Canada. Currently, there are no systematic reviews examining the health impact, specifically on mortality and morbidity, of COVID-19 in Black populations across Canada. Studies that explored the health impact of COVID-19 on the Canadian Black population focused on the mental health impact of this pandemic but did not provide any clinical outcomes (Gill et al., 2022; Jenkins et al., 2021; Miconi et al., 2021; Moysen, 2020).

Therefore, the objective of this systematic review was to examine the health impact of COVID-19 on mortality, morbidity, hospital admission, and hospital readmission rates in Black populations across Canada.

Methods

This systematic review is presented according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 (Page et al., 2021). A protocol for this study is registered in the international prospective register of systematic reviews, PROSPERO CRD42020222115 (Ezezika et al., 2021).

Search strategy

A comprehensive search was conducted in OVID Medline, OVID Embase, EBSCO CINAHL Plus, the Web of Science Core Collection, and Scopus according to a search strategy developed by an academic health sciences librarian (KB), with input from the research team. Gray literature searches were executed in ProQuest Dissertations and Theses Global, Google Scholar, and a custom advanced Google search for

Canadian government documents developed by Carleton University, which covers federal, provincial, and municipal levels of government. The searches were executed on September 17, 2021. A publication date limit was applied to only retrieve studies published after 2018. The search strategies for each source of information are provided in Supplementary file 1. Examples of key terms used to conduct the search include “BIPOC,” “racism,” “African continental ancestry group,” and “Coronavirus.”

Eligibility criteria

The review included materials written in English or French and published between 2019 and 2021 (Table 1). Publications needed to be primary research studies (using any type of study design) published in scholarly journals or gray literature in the form of dissertations, reports, working papers, or government documents. Publications had to include information or data about at least one of the following health effects of the 2019 coronavirus pandemic among Black Canadians: morbidity rates, mortality rates, hospital admission rates, or hospital readmission rates. Publications were also eligible for inclusion if they presented race-based information or data about the health effects of COVID-19 in Canada. If the publications included multiple countries or were global in nature, they were eligible if they included disaggregated health data for Canada. A detailed summary of the inclusion and exclusion criteria is provided in Table 1.

Study selection

The systematic review employed a four-step process to identify studies for inclusion. In the first step, all items retrieved from the database searches were imported into Covidence, a web-based software program that supports citation screening, full-text review, risk of bias assessment, extraction of study characteristics and outcomes, and exporting of data and references (Babineau, 2014). The next step involved using Covidence’s automatic de-duplication function to remove all duplicates from the database searches. Following the removal of duplicates and a pilot test of the screening guidelines (detailed inclusion and exclusion criteria) to ensure a high level of reviewer agreement, studies were screened in two rounds. In the first stage, two authors performed title and abstract screening (BG and MM). In cases where there was insufficient information to draw a conclusion, the study was moved to the second stage of screening for full-text review. A third author (KB) resolved any disagreements between the reviewers. In the second round of screening, the two initial reviewers independently performed full-text screening of the remaining articles. As in the first round of screening, a third author (OE) resolved any disagreements.

Quality assessment

The Mixed Methods Appraisal Tool (MMAT), a critical appraisal tool developed for systematic reviews that include

Table 1 Summary of inclusion and exclusion criteria

Selection criteria	Inclusion criteria	Exclusion criteria
<i>Publication characteristics</i>		
Language	English French	Studies written in a language other than English or French
Publication type	Scholarly journal article	Reference source (e.g., encyclopedia, handbook, textbook), book, book chapter, trade journal article, newspaper article, magazine article, dataset or data table, website, or webpage
	Gray literature (limited to reports, dissertations, working papers, and documents created by government organizations)	Item is a form of gray literature aside from a report, dissertation, working paper, or document created by a government organization
Publication date	Published after 2018	Published in 2018 or earlier
Study design	Primary study (quantitative, qualitative, or mixed-methods design)	Secondary study (review)
<i>Study characteristics</i>		
Exposure	Severe acute respiratory syndrome coronavirus 2 (COVID-19)	All other diseases
Population	Black communities	Other racial communities
Location	Canada	Studies that do not include data from Canada
Outcomes	COVID-19-related mortality rates COVID-19-related morbidity rates COVID-19-related hospital admission rates COVID-19-related hospital readmission rates	Other clinical outcomes unrelated to COVID-19

various types of empirical studies, was used to assess the studies selected for data extraction. In this tool, two types of questions are applied to each study. First, the tool presents two screening questions to ensure the study is empirical. Next, each study is assigned to one of five study categories (qualitative studies, quantitative randomized control trials, quantitative nonrandomized studies, quantitative descriptive studies, and mixed-methods studies). Each category has a set of five unique criteria that are rated using yes/no/can't tell responses, where a no or can't tell response indicates a potential issue with the methodological quality of the study (MMAT, 2018). We used the set of questions for quantitative descriptive studies, as all our articles had this study design. Each author appraised the studies independently, and all authors reached a consensus through discussion. A detailed description of the MMAT tool and the results can be found in Supplementary file 2 (MMAT table), which includes yes and no responses for all the included studies to identify them as low- or high-quality studies.

Data extraction

Two of the authors (BG and MM) performed a pilot extraction of the following data items from one of the four studies: study title, year of publication, author names, country of study, study type, and population/subgroup (Table 2). A meeting was held with a third author (OE), and the following items were added to be extracted from each of the studies ($n = 4$) to attain more context: study methods and study aim/objectives. In addition, the clinical outcomes of interest (mortality rate, morbidity rate, hospital admission rate, and hospital readmission rate) were also extracted from each article (Table 3). Following the pilot extraction exercise, the two authors conducted the data extractions from each article in separate documents independently and were blinded to minimize bias. A third author (OE) was brought in to resolve any conflicts between the two documents produced by the authors (BG and MM).

Results

From the OVID Medline, OVID Embase, EBSCO CINAHL Plus, Web of Science, and Scopus databases, we screened the title and abstracts of 616 studies and screened the full text of 50 documents. Figure 1 depicts the number of studies that passed through each phase of the process. Four publications met our inclusion criteria, and their data were extracted. The authors reached a consensus on the eligibility of all included studies. Table 2 summarizes the study characteristics of the studies ($n = 4$) used in this systematic review, including the authors, the year the study was published, the country of study, the study type and study design methods, the population/subgroup, and the study's aim/objectives. Table 3

summarizes the health outcomes limited to mortality rate, morbidity rate, hospital admission rate, and hospital readmission rate.

Type of study/methods

The four articles included in our study used quantitative research methods ($n = 4$). The studies relied primarily on two data sources: (1) on daily counts of COVID-19 infections for 89 health regions from the UofT COVID-19 Open Data Working Group 2 ($n = 1$) (Choi et al., 2021), and (2) 2016 Canadian census reporting the demographic composition of health regions ($n = 2$) (Choi et al., 2021; Sudebi et al., 2020) and neighbourhood-level information ($n = 1$) (Sudebi et al., 2020), and Canadian Vital Statistics Death data to estimate mortality rates ($n = 1$) (Sudebi et al., 2020).

Year of publication

Our search was designed to include studies published between 2019 and 2021. This period was selected because our research question is focused on the COVID-19 pandemic, which has been prevalent in Canada since 2019. Although there were no studies published between 2019 and 2020 that met our inclusion criteria, the four studies included in our review were published between 2020 and 2021 (Choi et al., 2021; City of Toronto, 2020; Sudebi et al., 2020; Taji et al., 2021).

Participants

Study participants ranged from the general Black population to Black individuals with specific comorbidities, as well as individuals with other racial backgrounds for comparison, across Canada. Of the four studies, three involved the general Black population versus their counterparts (Choi et al., 2021; City of Toronto, 2020; Sudebi et al., 2020). One of the four studies compared Black and non-Black patients receiving long-term dialysis (Taji et al., 2021).

Countries

The four studies included in this review focused exclusively on Canada. All four articles looked at Black populations and their counterparts in Canada, of which some looked at the populations across provinces ($n = 2$) (Choi et al., 2021; Sudebi et al., 2020) and/or major cities ($n = 3$) (Choi et al., 2021; City of Toronto, 2020; Sudebi et al., 2020). One study focused its findings exclusively in Ontario ($n = 1$) (Taji et al., 2021).

The following geographical locations were studied predominantly: countries—Canada ($n = 4$); provinces—Ontario ($n = 4$), Alberta ($n = 2$), Quebec ($n = 2$), and BC ($n = 2$); and

Table 2 Summary of study characteristics

Author/year	Country	Study title	Methods	Population/subgroup	Objective	MMAT score
Choi et al., 2021 [1]	Canada: Vancouver, Northeast AB, Southwestern ON, Toronto, Montreal. City of Toronto (140 neighbourhoods)	Studying the social determinants of COVID-19 in a data vacuum	Quantitative: Primarily using two data sources: daily count of COVID-19 infections for 89 health regions from the U of T COVID-19 Open Data Working Group and 2016 Canadian census reporting the demographic composition of health regions	Percent Black, percent foreign-born, percent low-income, percent working in health, percent with a bachelor's degree or higher, percent 65+ years of age—all residents in Canada. (All types of percentages are represented by regions in Canada.)	To link aggregated COVID-19 data at the level of health regions with tabular census data to describe the association between regions; demographic composition and the number of COVID-19 cases during the peak of the first and second waves of the pandemic	High
Sudebi et al., 2020 [3]	Canada: Quebec, Ontario, BC, Alberta Regional: Toronto and Montreal	COVID-19 mortality rates in Canada's ethno-cultural neighbourhoods	Quantitative: Used Canadian vital statistics death data to estimate mortality rates and the 2016 Census of population for neighbourhood-level information	Blacks and other visible minorities: South Asian, Chinese, Filipino, Latin American, Arab, Southeast Asian, West Asian, Korean, and Japanese	To examine whether COVID-19 mortality rates were higher, during the first wave of the pandemic, in Canadian neighbourhoods characterized by higher proportions of population groups designated as visible minorities	High
Taji et al., 2021 [5]	Canada: Ontario	COVID-19 in patients undergoing long-term dialysis in Ontario	Quantitative: Relied on manual data collection to capture key information on patients with COVID-19 infection undergoing long-term dialysis. Data were submitted weekly by all renal programs for all patients with COVID-19 infection. Also, cross-checked data on hospital admissions with the Canadian Institute for Health Information Discharge Abstract Database. Used linked data sets to compare disease characteristics and mortality between patients receiving long-term dialysis in Ontario who were diagnosed as COVID-19 positive and those who did not acquire COVID-19 infection. Data were collected prospectively	Black, white, Indian subcontinent, and other non-white patients receiving long-term dialysis who were registered in the Ontario Renal Reporting System (ORRS; final cohort of 12,501)	To describe the incidence, outcomes, and risk factors for SARS-CoV-2 infection in the long-term dialysis patient population and to measure outcomes including mortality	High
City of Toronto, 2020 [6]	Canada: Toronto	COVID-19: ethno-racial identity and income	Quantitative: Toronto Public Health data, reports on hospitalization rate by race, cases of COVID-19 by race; includes other data sets irrelevant to this study	Racial groups including Black, Arab/Middle Eastern or West Asian, Latin American, South Asian or Indo-Caribbean, Southeast Asian, East Asian, and white. Includes population data by income and household	Data on ethno-racial identity, income, and household size were analyzed and summarized monthly to inform work by the city of Toronto, Toronto Public Health, and health care and community partners to address inequities in COVID-19 by focusing on specific neighbourhoods and populations that have been most impacted by COVID-19	N/A

cities—Toronto ($n = 4$) and Montreal ($n = 2$), followed by Vancouver ($n = 1$).

Mixed-methods appraisal tool

Based on the MMAT, three studies (Choi et al., 2021; Sudebi et al., 2020; Taji et al., 2021) met the screening criteria and can be found in Supplementary file 2 (MMAT table). The studies presented a clear research question where appropriate and gathered data that addressed their research questions. All three studies used a sampling strategy relevant to address the research questions and had a sample representative of the target population. The three studies also used appropriate measurements and received a high score (high number of “yes” responses). The risk of nonresponse bias was low in these three studies where applicable, as some of the data were from a census. The statistical analysis used to answer the research questions was appropriate where applicable, resulting in high scores. One study (City of Toronto, 2020) did not meet the screening criteria, as the data came from a government website used to inform work by the City of Toronto and Toronto Public Health and did not have research questions.

Study objectives of the selected papers

The four studies explained the health impact of COVID-19 in the Black community in different ways. Two studies examined the health impact of COVID-19 across different racial backgrounds on a regional and provincial level (Choi et al., 2021; Sudebi et al., 2020). Two studies investigated neighbourhood-level health inequities across cities (Choi et al., 2021; Sudebi et al., 2020). Another study described the incidence, outcomes, and risk factors for COVID-19 infection in patients undergoing long-term dialysis, including mortality (Taji et al., 2021). One study provided data on ethno-racial identity, income, and household size to address inequities in COVID-19 by focusing on specific neighbourhoods and populations that have been most impacted by COVID-19 in Toronto (City of Toronto, 2020).

Outcomes

Mortality rate

One of the four studies provided data on mortality rates due to COVID-19 (Sudebi et al., 2020). In this study, the mortality rate was noticeably higher in Montreal neighbourhoods with higher shares of Black residents.

Morbidity rate

Three of the four studies provided data on morbidity rates due to COVID-19 (Choi et al., 2021; City of Toronto, 2020; Taji et al., 2021). All of these studies demonstrated that morbidity rates were higher in Black populations compared with those of

other races. One study examining differences in health outcomes demonstrated that morbidity rates were higher in regions and neighbourhoods with a higher percentage of Black residents compared to neighbourhoods with lower shares (Choi et al., 2021). One study also showed that the Black population, which comprises 9% of Toronto’s population, made up 14% of COVID-19 cases (City of Toronto, 2020). Last, one study’s findings revealed that those who identified as of Black ethnicity were found to have a higher infection rate than other patients undergoing long-term dialysis (Taji et al., 2021).

Hospital admission rate

Only one of the four studies provided data on hospital admission rates (City of Toronto, 2020). This study showed that the Black population living in Toronto (making up 9%) made up 16% of the hospitalizations, indicating that Black populations have a higher hospitalization rate compared with their counterparts.

Hospital readmission rate

None of the four studies provided data on hospital readmission rates.

Discussion

This systematic review identifies the health impact of COVID-19 on mortality, morbidity, and hospital admission rates in the Black population across Canada across four published articles between 2020 and 2021. Several implications revealed in this analysis can advance knowledge about the health impact of COVID-19 on health outcomes in the Black population across Canada.

First, the studies included in this review indicated that areas with higher shares of Black populations tend to experience higher infection and death rates due to COVID-19. In addition, Black populations make up higher percentages of hospital admission rates due to COVID-19 compared with their counterparts and are disproportionately impacted by COVID-19. Racism, defined as discrimination, prejudice, or antagonism toward individuals in a particular ethnic or racial group, negatively affects these individuals’ health irrespective of the health indicator (Karlsen & Nazroo, 2002; Williams et al., 2003). Most studies that have explored the impact of COVID-19 have focused on the mental health impact (Gill et al., 2022; Jenkins et al., 2021; Miconi et al., 2021; Moyser, 2020; Richardson et al., 2020). However, to what degree Black populations across Canada specifically account for the number of COVID-19-related cases and deaths is still unclear. This is due to Canada’s approach to collecting health data; COVID-19-related cases, deaths, hospital admissions, and readmissions are collected and reported by Canada’s health regions (Denice

Table 3 Summary of health outcomes limited to mortality, morbidity, hospital admission, and hospital readmission rates

Study	Summary: identified health outcomes			
	Mortality rate	Morbidity rate	Hospitalization rate	Hospital readmission rate
Choi et al., 2021 [1]	Data unavailable	COVID-19 infections are higher in health regions with higher shares of Black and low-income residents. Toronto analyses: COVID-19 spread considerably faster in neighbourhoods with the highest share of Black residents compared to neighbourhoods with lower shares	Data unavailable	Data unavailable
Sudebi et al., 2020 [3]	Noticeable differences in the age-standardized mortality rates (per 100,000), with the highest mortality rates in Montreal neighbourhoods with $\geq 25\%$ Black (149.3), compared to the other four categories (88.1 in neighbourhoods with less than 1% Black, 105.0 in neighbourhoods with 1 to $< 10\%$ Black, and 124.7 in neighbourhoods with 10 to $< 25\%$ Black)	Data unavailable	Data unavailable	Data unavailable
Taji et al., 2021 [5]	Data unavailable	A larger proportion of patients who tested positive for COVID-19 were of Black ethnicity. Authors found a higher infection rate among patients identified as of Black ethnicity (odds ratio: 3.05, $p < 0.0001$)	Data unavailable	Data unavailable
City of Toronto, 2020 [6]	Data unavailable	Black Torontonians make up 9% of the total population, but made up 13% of the COVID-19 cases. Moreover, the rate ratio of reported COVID-19 infection among Black individuals was 1.55, or 55% higher than the rate in the rest of the population.	Black Torontonians make up 9% of the total population, and 16% of COVID-19 hospitalizations. The hospital rate among Black Torontonians was 364 hospitalizations per 100,000 Black people, compared to the overall rate of 206/100,000	Data unavailable

et al., 2020). This approach provides a large amount of heterogeneous data, making it too ambiguous to clearly understand the impact of COVID-19 on specific populations.

Second, the results of this review are consistent with a few simulated studies that generally showed that COVID-19 has a greater impact on vulnerable populations compared with their counterparts (Blair et al., 2021; Denice et al., 2020). One study specifically showed that areas with higher shares of Black residents are disproportionately impacted by COVID-19 (Denice et al., 2020). More cases were apparent in densely populated areas such as Montreal and Toronto (Denice et al., 2020). These areas are considered “hotspots” for COVID-19 cases and deaths as they have a large proportion of Black residents and a reputation for higher infection counts (Denice et al., 2020). To support these findings, one study demonstrated that mortality was higher in Black patients with stroke associated with COVID-19 across the USA and Canada (Dmytriw et al., 2020). One systematic review explored the relationship between race and

COVID-19-related clinical outcome reports in developed countries such as the USA, the United Kingdom, Russia, and seven other countries. However, it did not report any clinical outcomes (mortality, morbidity, hospitalization) in the Canadian population (Pan et al., 2020). The study generally indicates limited data on race concerning COVID-19 health outcomes. Specifically, the systematic review reported that gray literature and preprint articles show that Black, Asian, and minority ethnic populations are at higher risk of COVID-19 infection and death compared with their counterparts (Pan et al., 2020).

Third, we note a paucity of race-based data to clearly understand the impact of COVID-19 on the Black population in Canada. Studies conducted in Canada specifically exploring the impact of COVID-19 on mortality, morbidity, hospital admission, and hospital readmission rates among Black populations are very limited (Blair et al., 2021). Studies conducted in North America, specifically in the USA, have more race-based data available than those conducted in Canada (Denice

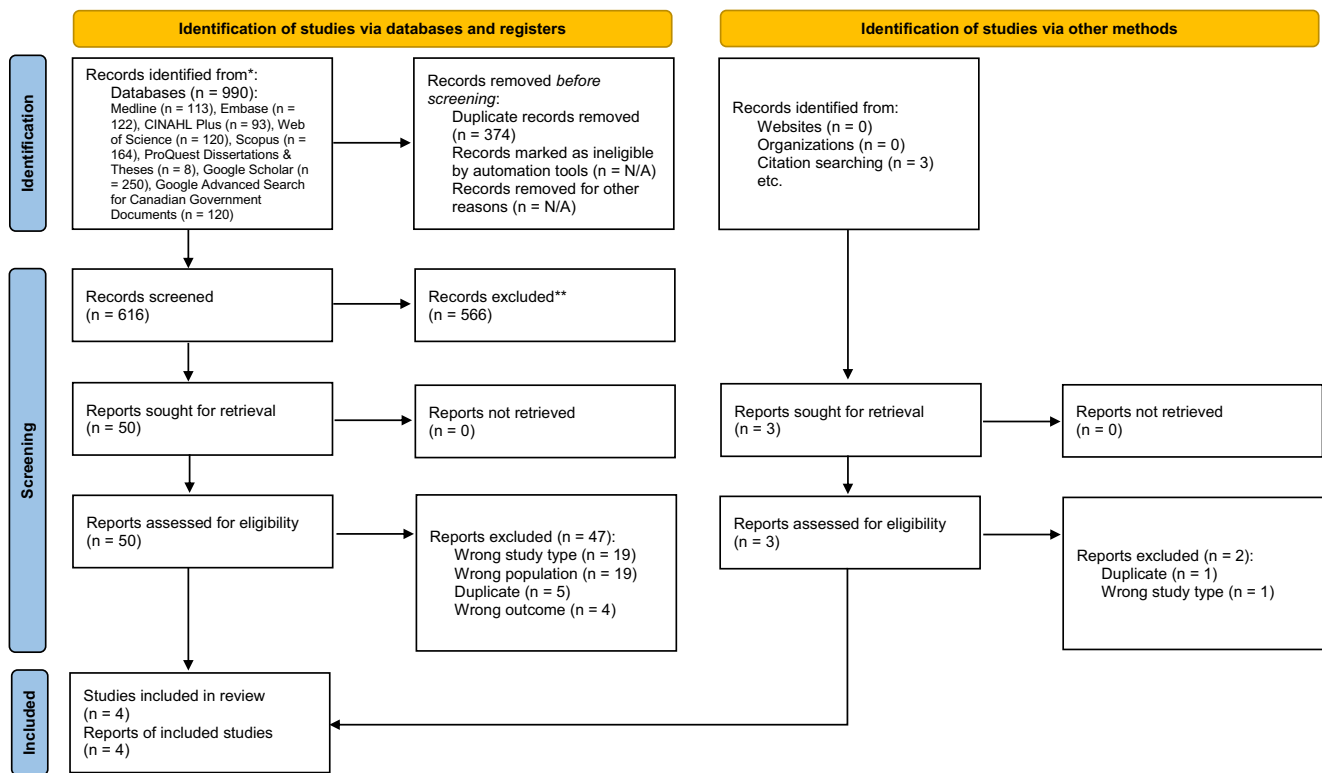


Fig. 1 PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers, and other sources

et al., 2020; Dmytriw et al., 2020; Garg et al., 2020; Saha & Feldman, 2020; Thebault et al., 2020). This is due to their approach to collecting health data, where hospitals collect race-based data recognizing the importance of this demographic information (Pareek et al., 2020).

Canada is similar to the USA in many ways; for example, Canada and the USA are neighbouring countries that share a large border and a common language: English. Both Canada and the USA are developed countries with cultural similarities, where populations in both countries are largely multicultural (Ghorbani, 2011). This could lead to the conclusion that the impact of COVID-19 is homogenous across North America. However, that might not be true, as differences in policies and health systems contribute to contrasting social determinants of health (Raphael et al., 2009), leading to a nonhomogeneous impact of COVID-19 in North America. The USA has well documented the impact of COVID-19, providing clear evidence that vulnerable populations, such as Black Americans, are disproportionately impacted by this pandemic (Denice et al., 2020; Garg et al., 2020; Thebault et al., 2020). Johns Hopkins University, state health departments, and the American Community Survey show that, across the USA, Black populations account for over 50% of deaths caused by COVID-19 and roughly 33% of hospitalizations (JHU, 2022). Other studies also show that COVID-19 disproportionately impacts Black Americans compared with their counterparts (Boulware, 2020; CDC, 2020).

Finally, the results of this review could provide a basis for future research on the health impacts of COVID-19 among the Black communities in Canada. In addition, the findings can inform public health planning for new or ongoing methods of data collection specifically aimed at gathering race-based data to understand and overcome the disproportionate impact of COVID-19 and other diseases. This is necessary because, without race-based data, systemic changes to address health inequality among visible minorities can be difficult to identify and accomplish.

Conclusion

In this systematic review, we draw from the limited available data on the impact of COVID-19 on the Black population in Canada. The available data suggest that Black populations are disproportionately impacted by COVID-19, making up high shares of cases, deaths, and hospitalizations compared to most of the population. The studies included in this review indicate that areas with higher shares of Black populations tend to experience higher infection and death rates due to COVID-19. A clearer understanding of the impact of COVID-19 and other diseases on Black populations in Canada can be achieved through the collection and availability of race-based data.

Contributions to knowledge

What does this study add to existing knowledge?

- This study adds to existing knowledge of health outcomes in Black communities in Canada by offering context about the creation of “race” as a socially constructed variable, and how this may be linked to the observed difference in COVID-19 health outcomes.
- By conducting a systematic review, this study also adds to existing knowledge by providing a comprehensive and whole picture of the existing data pertaining to health impacts of COVID-19 in Black populations across Canada.

What are the key implications for public health interventions, practice, or policy?

- Collection of race-based data across Canada would give a better understanding of how racism and discrimination against the Black population in Canada might be impacting COVID-19 and other health outcomes in this population.
- By demonstrating differences in COVID-19 health outcomes between the Black population and other populations in Canada, health workers, promoters, advocates, and policy and decision-makers can work with Black communities to design effective and sensitive communication strategies and vaccination interventions to address these differences.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.17269/s41997-022-00725-6>.

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Code availability N/A

Declarations

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Consent to participate N/A

Consent for publication N/A

Conflict of interest The authors declare no competing interests.

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