The Impact of Race on the Health of South Asians: A Systematic Review

by

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ABSTRACT

Background: Racism is a critical determinant of health, though Western healthcare practices and policies fail to adequately address it. South Asians face disproportionate health disparities and barriers to care, yet little is known about their healthcare experiences and the role of race and racism in shaping health equity. This review examined the impact of race on healthcare access, utilization, and outcomes among South Asians compared to White-majority populations.

Methods: Following PRISMA guidelines, Embase, PsycInfo, Ageline, CINAHL, and Google Scholar were searched for articles from 2013-2022. Inclusion criteria focused on racism, discrimination, or disparities/inequalities in South Asian physical and mental health, healthcare access, and utilization, outcomes compared to White populations (Canada, the U.K., the U.S.A., Australia, and New Zealand). Methodological quality was assessed, and data was synthesized narratively.

Results: The review included 89 studies from Canada (n=19), the U.K. (n=51), the U.S.A. (n=17), and Australia (n=2). Most studies utilized cross-sectional or cohort designs, primarily examining physical health outcomes and samples of Indians, Pakistanis, and Bangladeshis. Comparative studies declined over the past decade, with varying trends by country. Limited research was found on healthcare experiences, mental health outcomes, sexual/reproductive health, and health outcomes for children/youth. Structural and organizational racism were minimally discussed, with reliance on social determinants of health as proxies for structural racism.

Conclusion: This review highlights the scarcity of comparative research on the impact of racism on healthcare access, utilization, and outcomes among South Asians. It emphasizes the need for primary research with robust sampling methods and diverse study designs, incorporating comprehensive measures such as religion, housing, and language. Collecting and reporting disaggregated race and ethnicity health data, stratifying by South Asian subgroups, are important steps to address health disparities. Recognizing and addressing racism in healthcare and institutional policies is essential for achieving health equity for South Asians.

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SELECTED ABBREVIATIONS

BMI = body mass index

COVID-19 = coronavirus disease 2019

CRT = Critical Race Theory

HCP = healthcare provider

ICU = intensive care unit

MMAT = Mixed Methods Appraisal Tool

SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2 (later known as COVID-19)

SES = socioeconomic status

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TITLE: The Impact of Race on the Health of South Asians: A Systematic Review

INTRODUCTION

Race and racism are critical determinants of health for which current practices and policies in the healthcare sphere do not adequately address in Western countries. South Asians represent the largest visible minority group in Canada, and this population is poorly defined and described as a separate entity from East and Southeast Asians, largely ignored in Canadian healthcare.[1–3] There is a gap in the literature on the contextualization of race and racism as it undermines the health equity of South Asians. Additionally, South Asians are poorly represented in medical research while Canada did not collect race-based data prior to the COVID-19 pandemic.[4] The effect of race and racism on South Asian individuals has not been explored extensively to date, therefore this study aims to investigate the relationship between health equity and race/racism in the South Asian population in Western countries.

Racism and Health

Recognizing the unique country-specific contexts of race, ethnicity, and subgroup identities is essential for understanding the lived experiences of South Asian communities in White-majority countries. South Asians have a complex history of immigration and migration to Western countries. Within the Canadian context, the majority of South Asians are descendants or immigrants from Bangladesh, India, Pakistan, or Sri Lanka.[5] People with Nepalese and Bhutanese ancestry are also South Asian, as well as those with South Asian heritage from British colonial establishments (e.g., Fiji, Guyana, Kenya, Trinidad and Tobago, Uganda, etc.).[5] South Asians share cultural, religious, and historical origins, although they more readily identify with their ethnocultural roots (e.g., Sri Lankan Tamils, Indian Gujaratis, etc.). The Canadian national proxy measures for ethnicity are visible minority statuses ("persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour"),[6] which generalize the lived experiences and origins of these multifaceted communities. Context also varies by country; for instance, the United Kingdom uses “Asian” or “Asian British” for Indians, Pakistanis, Bangladeshis, Chinese, and other Asians, though research studies have also used “Asian Indian” in place for South Asians.[7,8]

Consequently, understanding the country-specific contexts of race and ethnicity has significant implications for medical and health research, as well as health service planning, delivery, and uptake. In recent years, the international medical community has more readily been shifting away from understanding and researching race from a biological/race naturalism approach, to adopting a racial constructivism approach. The former, describes conceptualizations of race existing as biological differences,[9–13] neglecting to ascribe the cause of health inequities to the political and social structures and powers that influence. Racial constructivism conversely posits that race is human-imposed, dependent on the surrounding societal contexts of structure/power, politics, and culture.[9,11,14] In following this framework, race is a socio-political construct based on perceived physical characteristics, void of a biological or genetic basis.[9,13,15,16] Race and ethnicity are often conflated in health research; ethnicity refers to the shared cultural practices, beliefs, and traditions amongst a group of people, typically associated with language, religion, and geographic location.[9,12,15] Racism creates a power differential system, often affording privileges to White or White-appearing individuals over other groups. Institutionalized in nature, racism permeates our social, economic, and political structures and manifests in various forms, including individual acts of racial discrimination (i.e., individual racism),[17–32] organizational policies (i.e., organizational racism), and higher-level policies, procedures, and barriers implemented by government structures and affiliated agencies (i.e., structural racism).[33–48] The historical use of race in constructing societal hierarchies has influenced medical education and training which predisposes populations that do not exist at the tops of these hierarchies to widespread racial discrimination in healthcare.[9,34,35,37,41,42,44–46,49–60] Further, structural racism exists as disparities in access to social welfare programs, housing, employment opportunities, and access to healthcare opportunities such as denial of timely diagnostic services, that lead to poor quality of care and adverse patient outcomes.[59–62] These inequities are associated with high maternal and infant mortality, increased mental health issues during childhood and adolescence, and avoidance in seeking health care due to anticipated discrimination.[41,61] Racial and ethnic minority populations, such as Asian (e.g., East Asian, South Asian), Black (e.g., Black Caribbean, Black African), and Latinx populations, face higher rates of chronic diseases such as diabetes and hypertension and have reduced access to screening programs compared to non-Hispanic White populations.[2,41] Notably, a meta-analysis reported that racism is more strongly associated with poor mental health (e.g., depression, anxiety and stress) than physical health.[42] When measured as a “lived experience”, race significantly and negatively impacts the self-reported health of the Latinx population in the U.S., with the modifying factor as having experienced discrimination.[62] Evidently, racism detrimentally infringes on health equity.

South Asian Health

South Asian populations in Western nations experience disproportionate rates of chronic conditions, mental health issues often exacerbated by cultural factors such as generational trauma and stigma, as well as barriers to care.[2,63–65] Compared to White immigrants, South Asian immigrants face higher odds of poor self-rated health, diabetes, and hypertension. While research on South Asian mental health and stress is lacking in the U.S.A.,[65] studies conducted in Canada report that 48% of South Asians with major depressive disorder do not receive necessary mental healthcare, and 33% perceive barriers to accessing such care.[64,66] The lacking data on the health behaviours and conditions of the South Asian community is also concerning, compounded by the fact that healthcare professionals lack evidence-based recommendations and knowledge of South Asian cultural norms to administer adequate care.[65]

Despite facing significant barriers to accessing health and social services, such as language, cultural, and socioeconomic factors, there is insufficient attention on the unique challenges and experiences of South Asians in healthcare across Western countries. Of importance, the term ‘South Asian’ is not uniformly defined in research, and sometimes not defined at all, which may have implications for the interpretation of existing literature. As described earlier, people of South Asian descent have origins from Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka; for this study, this definition will be maintained. Additionally, some South Asian ethnic subgroups (e.g., Bhutanese, Tamils) are not equally represented in research as other subgroups, much like Indo-Caribbeans, Indo-Fijians, and South Asian descendants from African countries. Thus, contextualizing the nature of current literature is crucial. Acknowledging the diversity of these subgroups and avoiding their homogenization in research allows for a better understanding of the unique challenges they may face in the healthcare system.

Study Rationale & Proposed Implications

The impact of race and racism on health has been widely established through research. Yet, few studies examined existing literature on the impact of race on the health of South Asians within the Canadian context. This gap in research needs to be addressed, as primary studies substantiate the significant implications of race and racism on health, but the specific experiences of South Asians in this regard have not been thoroughly explored. Investigating the influence of South Asian identity and racism on health and social services access, utilization, and mental and physical health outcomes can help identify research gaps and inform targeted interventions that address the health inequities faced by this population. In this way, Critical Race Theory (CRT)[1] can serve as a valuable framework for understanding and addressing the intersection of race, ethnicity, and health in South Asian populations. CRT upholds that race is a social construct and asserts that racism extends beyond individual bias or discrimination and is rather deeply embedded within legal and social systems. Applying CRT in healthcare settings and research provides opportunities to identify and address racialized assumptions, biases, and power dynamics in healthcare settings, and pinpoint how structural racism contributes to health inequities and outcomes more so than individual prejudices in the system.[11,69–72] In this thesis, CRT will be applied to the discussion to consider the social construction of race and contextualize the resulting data with respect to structural racism (i.e., CRT is not part of the systematic review methodology).

Findings from this study can be useful to healthcare administrators, policymakers, and implementation specialists, in informing the development and dissemination of culturally sensitive health information resources and intervention delivery that promotes the health equity of South Asians. This may increase community uptake and service-seeking behaviour, inform public education efforts and anti-racism policies, and improve South Asian health outcomes. As the largest minority group in Canada, protecting the health and wellness of South Asians is of utmost importance.

Research Question & Objectives:

Is there an effect on the health, health care, and access to health services, of South Asians compared to White populations in Canada, the U.K., the U.S.A., Australia, and New Zealand, due to race?

The primary objective of this study is to review and contextualize literature from the last 10 years (2013-2022) on the relationship between race and health specific to the South Asian community. The secondary objective is to highlight gaps in this field of research.

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[1] *Critical Race Theory* (CRT) is a theoretical framework rooted in critical legal studies, that explores the intersection of race, power structures, and law, to understand and challenge racial hierarchies that perpetuate systemic inequities and injustices.[11,67,68] Scholars including Derrick Bell, Richard Delgado, Mari Matsuda, Patricia Williams, and Kimberlé Crenshaw, were foundational to CRT, emphasizing the examination of White supremacy, the connection between storytelling, language, law, and racial power, and the impact of racial discrimination on individuals' daily lives (further examined in the discussion).[67,68]

Reflecting on my positionality

Milner[10] presents a conceptual framework for researchers to understand how their race and culture influence their positionality in research. In acknowledging my own positionality, I recognize the impact my lived experiences have on my understanding and interpretation of the reviewed literature and findings. As a child of Tamil immigrants to Canada, I am deeply aware of the ongoing, government-imposed marginalization, oppression, and ethnic cleansing of my peoples in Sri Lanka, which led my parents to leave the country due to civil war. My identity is rooted in my position as the oldest daughter of an immigrant household, where I strive to improve the social and economic position of my family. My worldview is further centered around my education in the health sciences and public health, shaping my purpose to work in favour of marginalized communities based on their intersecting identities of race, ethnicity, class, gender, and sexuality, often in opposition to those in power who perpetuate systemic inequalities. Further, I pursued this thesis topic as I have witnessed medical racism and systemic barriers in accessing quality care among South Asians in healthcare settings, in what is a highly multicultural metropolitan area. South Asians are also the largest, rapidly growing visible minority group in Canada and addressing their health equity concerns remains a topic of interest to me in my studies and personal life. This research work is also guided by a supervisory committee whose lived experiences are that of racialized academics and physicians in healthcare and social sciences. The lens through which I examined this research is heavily influenced by Critical Race Theory, which recognizes that structural racism promotes policies that perpetuate systemic inequalities in education, socioeconomic position, access to employment opportunities, housing, and other aspects of life. These biased systems and policies have interminable health implications, disproportionately affecting racialized populations with intersecting identities who differ from the White majority.

METHODS:

Data Sources and Search Strategy

Per PRISMA guidelines, a systematic review of Embase, PsycInfo, EBSCOhost (Ageline, CINAHL), and a supplemental search on Google Scholar, was conducted using a search strategy of terms from five themes: 1) racism, 2) South Asian, 3) health, 4) access to healthcare, and 5) health disparity. Synonymous and related terms for 'South Asian' such as 'British Asian' were included in the academic search strategy to ensure all articles relevant to the population of interest were captured. The major concepts, and search terms and strings for the academic searches are outlined in Tables 1A to Table 3B, and those for Google Scholar in Table 4.

The search strategies were optimized for each academic database in extensive consultations with McMaster Health Science librarians. The scholarly databases were chosen as preliminary reviews of the literature showed that they would capture the most relevant published literature.[2] Google Scholar was also included to supplement the systematic search of academic databases for journal articles. The Google Scholar search strategy included the most relevant terms utilized for the

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[2] MEDLINE was excluded as preliminary searches yielded insignificant results that met the inclusion criteria. Additionally, Embase encompasses articles indexed in MEDLINE and offers more comprehensive records with a greater number of associated thesaurus terms.

academic database searches and was optimized to minimize erroneous results (see Table 4). Consequently, the Google Scholar strategy did not include synonymous terms for ‘South Asian’ or expand on other terms included in the academic searches.

Academic searches were first conducted in April 2021, and again in June 2022, to capture articles published from January 1, 2013, up through June 6, 2022. The Google Scholar supplemental search was conducted in February 2023, restricting results up to 2022.

Table 1A: Major concepts & key terms for PsycInfo Database

Concept		Mesh & Key Terms
#1	Racism	Racism (Exp) OR “Racial and Ethnic Relations” (Exp) OR Cultural Diversity (Exp) OR “Racial and Ethnic Groups” (Exp) OR Racialization (Key term) OR Visible Minority/ies (Key term) OR Racialized (Key term)
#2	South Asian	South Asian (Keyword) OR South Asian Cultural Groups OR Southeast Asian Cultural Groups OR Southeast Asian (Exp) OR British Asian (Key term) OR Asian Britons OR East Indian (Key term)
#3	Health	Health (Exp) OR Well-being (Exp) OR Mental Health (Exp) OR Diseases (Key term)
#4	Access	Health Care Access (Exp) OR Health Service (Key term) OR Quality of Care (Exp) OR Social Services (Exp)
#5	Health Disparity	Health Disparities (Exp) OR Health Equity (Key term) OR Health Care Disparity (Key term) OR Health Inequality (Key term)

Table 1B: PsycInfo Search String

1.	exp racism/ or “race and ethnic discrimination”/ or racial bias/ or racial disparities/
2.	exp “racial and ethnic relations”/
3.	exp cultural diversity/
4.	exp “racial and ethnic groups”/
5.	racialization.mp
6.	visible minority.mp
7.	visible minorities.mp
8.	racialized.mp
9.	exp South Asian cultural groups/ or exp Southeast Asian cultural groups/
10.	South Asian.mp
11.	Southeast Asian.mp
12.	British Asian.mp
13.	Asian Britons.mp
14.	East Indian.mp

15.	health/ or adolescent health/ or child health/ or emotional health/ or epidemiology/ or health anxiety/ or health awareness/ or health disparities/ or health literacy/ or health outcomes/ or health promotion/ or health status/ or holistic health/ or mental health/ or oral health/ or physical health/ or population health/ or public health/ or reproductive health/ or sexual health/
16.	well being/ or adjustment/ or behavioural health services/ or child health/ or healthy aging/ or life changes/ or life satisfaction/ or lifestyle changes/ or mental health/ or public mental health/ or "quality of life"/ or social health/ or work-life balance/
17.	exp mental health/
18.	diseases.mp
19.	health care access/ or health care delivery/ or treatment barriers/ or health care costs/ or health care utilization/ or health disparities/ or health service needs/
20.	health service.mp
21.	exp "quality of care"/
22.	social services/ or adult day care/ or community services/ or elder care/ or family preservation/ or family reunification/ or foster care/ or government programs/ or independent living programs/ or outreach programs/ or social programs/ or support groups/ or faith based organizations/ or human services/ or integrated services/
23.	exp health disparities/
24.	health equity.mp
25.	health care disparity.mp
26.	health inequality.mp
27.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
28.	9 or 10 or 11 or 12 or 13 or 14
29.	15 or 16 or 17 or 18
30.	19 or 20 or 21 or 22
31.	23 or 24 or 25 or 26
32.	27 and 28 and 29
33.	27 and 28 and 30
34.	27 and 28 and 31
35.	32 or 33 or 34

Table 2A: Major concepts & key terms for Embase

Concept		Mesh & Key Terms
#1	Racism	Racism (Exp) OR Race Relation (Exp) OR Cultural Diversity (Exp) OR Ethnic Group (Exp) OR Racialization (Key term) OR Visible Minority/ies (Key term) OR Racialized (Key term)
#2	South Asian	South Asian (Exp) OR Southeast Asian (Exp) OR British Asian (Key term) OR Asian Britons OR East Indian (Key term)
#3	Health	Health (Exp) OR Well-being (exp) OR Mental Health (exp) OR Diseases (Exp)

#4	Access	Health Care Access (Exp) OR Health Service (Exp) OR Health Care Quality (Exp) OR Social Services (Key term)
#5	Health Disparity	Health Disparity (Exp) OR Health Equity (Exp) OR Health Care Disparity (Exp) OR Health Inequality (Key term)

Table 2B: Embase Search String

1.	exp racism/
2.	exp race relation/
3.	exp cultural diversity/
4.	exp ethnic group/
5.	racialization.mp
6.	visible minority.mp
7.	visible minorities.mp
8.	racialized.mp
9.	South Asian/ or Bangladeshi/ or Bhutanese/ or Indian/ or Nepalese/ or Pakistani/ or Sri Lankan/
10.	exp Southeast Asian/
11.	exp British Asian/
12.	East Indian.mp
13.	Asian Britons.mp
14.	health/ or “physical constitution and health”/ or adolescent health/ or child health/ or dental health/ or family health/ or health status/ or men’s health/ or mental health/ or minority health/ or nutritional health/ or population health/ or reproductive health/ or sexual health/ or women’s health/
15.	well being/ or “physical constitution and health”/ or physical well-being or psychological well-being/
16.	mental health/ or community mental health/ or psychological well-being/
17.	diseases/ or experimental disease/ or “general aspects of disease”/ or mental disease/ or physical disease/
18.	health care access/ or health care delivery/ or health care system/ or right to health/
19.	health service/ or “health care facilities and services”/ or bereavement support/ or body weight management/ or clinical pharmacy/ or dietary service/ or emergency health service/ or family service/ or genetic service/ or health care/ or health services research/ or hospital service/ or intersectional collaboration/ or maternal health service/ or medical service/ or medication therapy management/ or nutrition service/ or occupational health service/ or patient escort service/ or public health service/
20.	exp health care quality/
21.	social services.mp
22.	exp health disparity/
23.	exp health equity/
24.	exp health care disparity/

25.	health inequity.mp
26.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
27.	9 or 10 or 11 or 12 or 13
28.	14 or 15 or 16 or 17
29.	18 or 19 or 20 or 21
30.	22 or 23 or 24 or 25
31.	26 and 27 and 28
32.	26 and 27 and 29
33.	26 and 27 and 30
34.	31 or 32 or 33

Table 3A: Major concepts & key terms for EBSCOhost (Ageline & CINAHL)

Concept	**Mesh & Key Terms**
#1 Racism	Racism (Exp) OR Race Relations (Exp) OR Ethnic Relations (Exp) OR Cultural Diversity (Exp) OR Ethnic Group (Exp) OR Minority Groups OR Ethnic Minorities (Exp) OR Racialization (Exp) OR Racial Discrimination (Exp) OR Visible Minority/Minorities (Exp) OR Racialized (Exp)
#2 South Asian	South Asian (Exp) OR Southeast Asian (Exp) OR British Asian (Exp) OR British South Asians (Exp) OR Asian Britons OR East Indian (Exp)
#3 Health	Health (Exp) OR Well-being (Exp) OR Mental Health (exp) OR Diseases (Exp)
#4 Access	Health Care Access (Exp) OR Health Service (Exp) OR Health Care Quality (Exp) OR Social Services (Key term)
#5 Health Disparity	Health Disparity (Exp) OR Health Equity (Exp) OR Health Care Disparity (Exp) OR Health Inequality (Key term)

Table 3B: EBSCOhost (Ageline & CINAHL) Search String

1.	racism
2.	race relations/ or ethnic relations
3.	cultural diversity
4.	ethnic group/ or minority groups/ or ethnic minorities
5.	racialization
6.	racial discrimination
7.	visible minority
8.	visible minorities
9.	racialized
10.	South Asian/ or Bangladeshi/ or Bhutanese/ or Indian/ or Nepalese/ or Pakistani/ or Sri Lankan/ or British South Asian

11.	Southeast Asian
12.	British Asian
13.	Asian Britons
14.	East Indian
15.	health
16.	well being
17.	wellbeing or well-being or well being
18.	mental health/ or mental illness/ or mental disorder/ or psychiatric illness
19.	disease/ or illness/ or sickness/ or condition
20.	health care access
21.	health services/ or healthcare/ or health care system
22.	healthcare quality
23.	health care quality
24.	social services
25.	health disparity/ or health disparities/ or health care inequalities/ or health care inequality
26.	health equity/ or health inequity
27.	health care disparity
28.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
29.	10 or 11 or 12 or 13 or 14
30.	15 or 16 or 17 or 18 or 19
31.	20 or 21 or 22 or 23 or 24
32.	25 or 26 or 27
33.	28 and 29 and 30
34.	28 and 29 and 31
35.	28 and 29 and 32
36.	33 or 34 or 35

Table 4: Google Scholar Search String

1.	Health
2.	White
3.	Racism
4.	Inequity
5.	Disparity
6.	Disparities
7.	Inequities
8.	Discrimination
9.	[All words] 1 AND 2
10.	[Any of] 3 OR 4 OR 5 OR 6 OR 7 OR 8
11.	9 AND 10 AND [Exact phrase] “South Asian”

Inclusion and Exclusion Criteria

The inclusion criteria and justifications for all articles were as follows:

1) Published in English;
    - The geographic locations of the populations of interest for this review (Canada, U.K., U.S., Australia, New Zealand) are primarily English-speaking and the resulting body of literature are published in English.

2) Published between 2013 and 2022 (1/1/13—6/6/22 academic search; 2013-2022 Google Scholar);
    - Articles published in the last 10 years were included to account for the context-specific nature of race, which may change over time. Such literature provides a more accurate reflection of the current societal context compared to contexts of over 10 years ago.

3) Primary or secondary aims examined the health of South Asians (immigrants from, or descendants of Bangladeshi, Bhutanese, Indian, Nepali, Pakistani, or Sri Lankan origins) in some capacity;
    - Articles were included if study samples examined South Asians as an aggregate group or disaggregated group (e.g., Indians, Pakistanis). Articles mentioning people with South Asian heritage who were of mixed race/ethnicity or from the broader diaspora (e.g., Fiji, Guyana, Kenya, etc.) were also included.

4) Examined outcomes related to physical health, mental health, health care utilization, and access to health services;
    - Incident, prevalent, and biologic studies were not of interest for this study. The examined outcomes were determined that they would better contextualize the effects of race and racism on South Asian health than studies examining disease incidence, prevalence, and biological factors as race is not a biological construct.

5) Described or discussed racism, discrimination, ethnic or racial bias/prejudice or disparity/inequality in health outcomes; and
    - As the term ‘racism’ is not readily and widely used in the literature, this criterion allowed the study to capture other manifestations and descriptions of racism in healthcare and research.

6) Comparison of South Asians to a White-majority population in Canada, the U.K., the U.S.A., Australia, and New Zealand.
    - The five White-majority countries were chosen for their large South Asian diaspora populations. Racism in healthcare, influenced by societal context and language, has been demonstrated in these countries via research, prior knowledge, and media reports. Including articles with a comparator population is crucial for comparing health outcomes based on race and ethnicity in this systematic review.

The exclusion criteria and justifications for articles were as follows:

1) Examination or discussion of only South Asian population (i.e., no comparator or comparator other than White population);
    - As the aim of the study was to assess the impact of race and racism on the health of South Asians, the basis of these concepts requires a comparator. Studies that solely examine South Asian health provide necessary, yet varied findings than the interest of this systematic review. Further, studies that grouped South Asians with other Asian groups (e.g., 'Asian' as Chinese, Indian, and other) or racialized groups (e.g., 'BAME' in the U.K.) and did not report disaggregated data, were excluded as they did not provide a nuanced description of South Asian health.

2) Disease prevalence, incidence, and biological studies; and
    - These studies were excluded on the basis that this systematic review is concerned with the effects of race and racism on healthcare access, use, and outcomes, more than current rates of disease in examined countries and the biological underpinnings of these diseases.

3) Newsletters, newspapers, magazine articles, books, and editorials/commentaries.
    - Though these types of articles may be peer-reviewed and refer or allude to empirical studies, this study is only concerned with reviewing empirical evidence (primary or secondary studies) on the effects of race and racism on South Asian health.

Screening

All articles from the academic searches were uploaded to Covidence to complete screening. Level 1 (title and abstract) screening was completed independently by a team of four reviewers (master's student and three other reviewers) in tandem. Level 2 (full-text) screening was completed independently by the master's student and another reviewer. Discrepancies were resolved by discussion or upon consulting a third reviewer. The reviewers were not blind to study authors, institutions, or journals.

The first 300 articles on Google Scholar were screened for eligibility independently by the master's student to ensure methodological rigor for capturing the most relevant articles.[73]

Data Extraction & Analysis

Article descriptor information extracted included study design/type, country, comparator population, sample population (age type and number, socioeconomic status), number of participants, sampling type, recruitment method and more. Race and ethnicity information reported in articles were collected and specified (e.g., Pakistani, Sri Lankan, etc.) as per JAMA guidelines,[74] as well as the article's description or definition of 'South Asian' or specific subgroup, and method of race/ethnicity identification (e.g., self-report, investigator-observed, survey).

Outcomes extracted included outcome type (physical health, mental health, health service utilization, and access to health services), key findings, implications, limitations, research gaps and/or recommendations for research. The Mixed Methods Appraisal Tool (MMAT) was used to assess the methodological quality.

Data extraction was completed on Microsoft Excel version 16.55, followed by computations for descriptive statistics for all demographic variables along with the median MMAT score. The master's student conducted a narrative synthesis of the extracted data.

RESULTS:

Once articles from scholarly databases were imported into Covidence, duplicates were removed, and articles were screened based on the predetermined inclusion and exclusion criteria.[3] At the title and abstract screening stage, 2,269 articles from the scholarly databases were screened, followed by 300 articles sourced from the supplemental Google Scholar search; 1,676 articles were excluded at this stage for not meeting the inclusion criteria. At the full-text level, 763 articles were reviewed on Covidence and 130 from Google Scholar, yielding a combined total of 89 articles eligible for inclusion in the current systematic review. Figure 1 summarizes this identification and selection process.

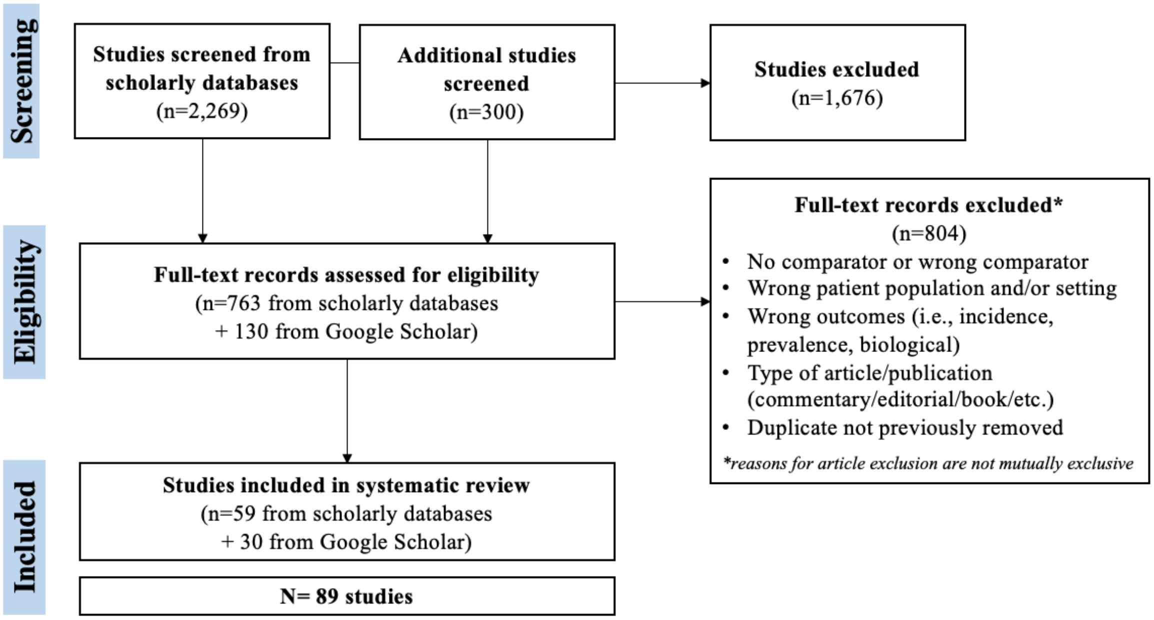

Figure 1. PRISMA flowchart for the Race and South Asian Health Systematic Review.

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[3] A total of 4,024 academic articles were initially retrieved from academic database searches and imported into Covidence. Following this, only literature published in the last 10 years were deemed relevant for inclusion.

Of the 89 reviewed studies, most were from the U.K. (n=51, 57%), followed by Canada (n=19, 21%) and the U.S.A. (n=17, 19%) (Table 5). Only two studies (2%) were from Australia, and no studies were identified from New Zealand. Over the last decade, 40% of articles included in the review (n=36) were published in 2016 or earlier (Figure 2, Table 5).

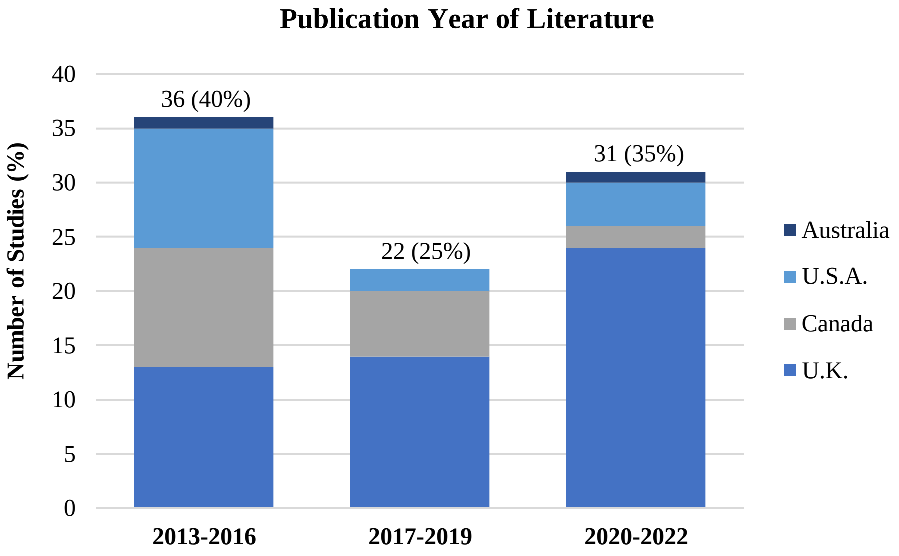

Figure 2. Publication years of the literature included in the current systematic review (n=89).

The majority of studies were quantitative (n=81, 91%), with cross-sectional and cohort studies being the most common study designs (n=76, 85%). The remaining 15% (n=13) of studies utilized other quantitative designs such as case-control (n=1, 1%) or descriptive surveys (n=4, 4%),[4] qualitative methods (n=5, 6%) or other study designs (n=3, 3%) such as an experimental vignette design or case note review. No mixed methods studies or reviews were captured in this systematic review. Most sample sizes exceeded 10,000 participants (n=49, 55%), with several between 1,000 and 9,999 (n=21, 24%). Less than 10 studies had sample sizes of 100 or less (n=7, 8%). A large proportion of studies examined both male and female gender participants (n=68, 76%).

Use of the MMAT to discern study quality indicated that 96% of articles were of moderate to high quality with scores of 4 or 5 (n=85). The most common factors in preventing a perfect score among quantitative studies were missing data and a higher risk of nonresponse bias. Notably, there were few studies that did not explicitly state the study design or stated designs that did not appear to fit any MMAT category at first glance. As assessing methodological quality is still necessary in such circumstances, study quality was assessed using appraisal questions for the closest study design (i.e., appeared the most appropriate and relevant based on contextual clues and MMAT descriptions). For example, a clinical audit study could not be classed as a qualitative study,

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[4] As defined by the MMAT, (quantitative) descriptive studies examine the distribution of variables and generate hypotheses, often through surveys or case reports, without focusing on causal relationships. Cross-sectional analytic studies are different as they examine the relationship between health-related outcomes and interventions or exposures among different population subgroups.

randomized control trial, quantitative descriptive survey, cohort study, cross-sectional study, or a mixed-methods design, and was better classified as a non-comparative study most closely associated with a case series or case report design.

The population comparator of White individuals across all countries were denoted by various terms, and the specification and identification of South Asians in samples and subgroups also varied. Terms used to describe the White comparator populations in the five countries examined are listed in 6, with “White” (n=34) and “White British” (n=30) being the most common. Notably, 30% of the articles (n=27) did not provide any definition or description of South Asian identity or subgroups included under this broader term. Among the remaining 62 studies, most simply listed the included subgroups in their research, without providing any definitions. The samples of these studies most often comprised Indians (n=54, 61%), Pakistanis (n=50, 56%), and Bangladeshis (n=44, 49%), while a limited number of studies focussed on Sri Lankans (n=8, 9%), Nepalese (n=5, 6%), and Bhutanese (n=1, 1%) individuals. However, 34% of studies (n=30) did not provide any description of which South Asian subgroups were included in their sample. Moreover, the inclusion of mixed-race or other South Asian diaspora populations was also limited and not well described. These individuals were often combined in “mixed” or “other” category, shared with other ethno-cultural groups (n=35, 39%). Overall, the specification and definition of the South Asian population and its subgroups are inadequate in the studies reviewed, with more focus on certain subgroups than others.

Physical health outcomes were examined in over half of the studies (n=50, 56%), followed by health service utilization (n=33, 37%) and access to health services (n=34, 38%). Mental health outcomes were the least examined of all four outcomes (n=14, 16%). A considerable number of studies examined multiple outcomes, most commonly with health service utilization and access to health services.

Table 5. Race and South Asian Health Systematic Review Results (2013-2022).

Characteristic	**Studies (n=89), (%)**
Publication Year	
2013-2016	36 (40%)
2017-2019	22 (25%)
2020-2022	31 (35%)
Country	
Australia	2 (2%)
Canada	19 (21%)
New Zealand	0 (0%)
United Kingdom	51 (57%)
United States	17 (19%)
Study Type	
Quantitative	81 (91%)
Case-control	1 (1%)
Cohort	38 (43%)
Cross-sectional	38 (43%)
Descriptive Surveys	4 (4%)
Qualitative	5 (6%)
Other	3 (3%)
Outcome Type (not mutually exclusive)	
Physical health	50 (56%)
Mental health	14 (16%)
Health service utilization	33 (37%)
Access to health services	34 (38%)
Gender of Sample	
Both	68 (76%)
Female	12 (13%)
Male	2 (2%)
Not reported / not applicable	7 (8%)
Defined/Specified 'South Asian'	
Yes	62 (70%)
No	27 (30%)
South Asian Demographic Group (not mutually exclusive)	
Bangladeshi	44 (49%)
Bhutanese	1 (1%)
Indian	54 (61%)
Nepali	5 (6%)
Pakistani	50 (56%)
Sri Lankan	8 (9%)
Other/Mixed	35 (39%)
Not specified	30 (34%)
Sample Size	
<100	7 (8%)
101-999	12 (13%)
1000-9,999	21 (24%)
>10,000	49 (55%)
Article Source	
Embase, PsycInfo, Ageline, CINAHL	59 (66%)
Google Scholar	30 (34%)
MMAT Score	
Not applicable	0 (0%)
Very low (1-2)	0 (0%)
Acceptable (3)	4 (4%)
Moderate (4)	42 (47%)
High (5)	43 (48%)

Table 6: Terms used to describe the reference category or white population comparator.[5]

Table 6	
Comparator Terms (not mutually exclusive)	**No. of Studies (n=)**
Anglo-Celtic	1
Canadian, European origin	2
Caucasian	2
European	1
Non-Hispanic White	9
Non-Latino White	1
UK White/Caucasian (British/Welsh/Scottish/Irish)	2
White	34
White British	30
White British, Irish	1
White Caucasian	1
White European	1
White Scottish	4
White/European American	1

Individual Racism and Health Care Access

Relatively few studies ascribed South Asian health inequities to the results of structural or organizational racism, and even fewer studies discussed individual racism, bias, or discrimination on health-related factors of South Asians. Studies from the U.K. and Canada acknowledged the impact of experiences of racism on health and well-being,[3,75–77] though they used proxy indicators such as employment or neighborhood deprivation if such data were available. Other studies that mentioned racism in the text, briefly touched on this in their introductions or discussions and did not further discuss the role of racism with respect to findings.[78–81]

A study conducted in Scotland on cervical screening participation rates among women found that South Asians, among other ethnic minority women, experienced racism, ignorance, and feelings of shame, when interacting with clinical and non-clinical staff.[82] Another two studies conducted in the U.K. found that Indian and Pakistani groups experienced increased psychological distress compared to White individuals,[83] and that South Asians (Indian, Bangladeshi, and Pakistani) and other ethnic minorities were less likely prescribed antidepressants than White individuals.[84] The authors postulated that these results may have resulted from racism experienced in daily life[83] and implicit bias due to racism.[84] Two other studies briefly touched on the role of structural and institutional racism as factors impacting healthcare access.[85,86]

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[5] The terms used to describe White comparator populations in Table 6 are herein standardized as “White”.

A limited number of Canadian studies extensively examined the association between racism and health. While two studies utilized self-reported data on perceived stress[87] and general health,[88] these measures did not assess individual racism separately from other stressors, nor the impacts of structural and/or organizational racism. Perceived stress was employed as a comprehensive measure encompassing various stressors, including those related to racism.[87] The study discovered that racial minorities, including South Asians, displayed better coping and resilience for perceived stress compared to White individuals.[87] However, the author acknowledged that stressors related to racism and chronic strains resulting from structural discrimination may not be managed in the same way as other stressors.[87] Banerjee and colleagues[88] found that racialized university students, including South Asians, more commonly reported poor general health compared to White students, which emphasized the need for policy and practice improvements within Canadian higher education. In contrast, a third study indicated that racism did not impact the door-to-electrocardiogram time for South Asians.[89] However, when accounting for other significant factors, such as the language spoken at home, wait times for minorities differed significantly from those of White patients.[89] Lastly, Veenstra[90] emphasized the importance of adopting intersectional approaches in data analyses as study findings demonstrated how race, gender, class, and sexuality are interconnected in predicting hypertension. These findings stressed the combined effects of intersecting identities on the likelihood of reporting hypertension (e.g., wealthier South Asian women had a higher likelihood of reporting hypertension than expected).[90] Nevertheless, the author cautioned that such analyses remain insufficient in uncovering how racism, sexism, and other forms of oppression at higher organizational and structural levels impact individual experiences.[90]

Physical Health

Fifty articles discussed physical health outcomes, including self-reported / general health, cardiovascular health, and COVID-19 related outcomes, among South Asians and White populations. Most studies were conducted in the U.K. (n=25), followed by Canada (n=13), the U.S.A. (n=11), and Australia (n=2).

Self-Rated Health

Studies from Canada and the U.K. indicate that South Asians, especially immigrants, Pakistanis and Bangladeshis, are more likely to report fair or poor self-rated health, and health-related quality of life, than White individuals.[3,77,81,85,88,91–94]

In Canada, self-rated health is positively correlated with younger age, male gender, education, and income, across racial groups,[93] and accounting for SES, health-related practices and BMI strengthened the associations observed between immigrant and Canadian-born South Asians and White individuals.[3]

In the U.K. however, accounting for SES, health behaviours, psychosocial variables,[77] and small-area deprivation,[94] reduces the ethnic disparities in self-perceptions of health.

Pandemic outcomes

Five U.K.-based studies investigated ethnic disparities in COVID-19 outcomes. South Asians had higher rates of positive SARS-CoV-2 tests, higher odds of underlying chronic diseases, higher hospitalization rates (also to the intensive care unit (ICU)), and were admitted at a younger age, with a median difference of 23 years (p<.01) than Whites.[95–97] Bangladeshis were significantly more likely to be admitted to the ICU than White individuals, followed by Indians and Pakistanis, where admission to ICU was significantly associated with social deprivation.[95] Living in a multigenerational environment raised the risk of COVID-19 for older South Asian women, who were already at an 11% higher risk than White women.[97] Additionally, living alone and older age increased the risk of mortality from COVID-19 for South Asians, particularly Pakistanis, compared to White individuals.[97] After adjusting for ethnicity and deprivation, older age is also a predictor of COVID-19 mortality for hospitalized patients.[95] That said, conflicting evidence suggests South Asians had lower admissions to hospital, lower mortality, and lower community deaths related and unrelated to COVID-19 during the first pandemic wave, compared to the U.K. White population.[98] Of note, this study highlighted missing data and lower generalizability due to only examining localized data from the first three months of the pandemic.[98]

Relatedly, a study investigating the 2009 H1N1 influenza in Canada found that both adult and pediatric cases were more likely to be of South Asian origin than White, when compared to test-negative controls.[99]

Cardiovascular outcomes, Diabetes, and Obesity

South Asians were generally more likely to report hypertension, adverse cardiovascular conditions,[3,75,85,90,91,100,101] Type 1 or Type 2 diabetes[3,75,85,91,101,102] and earlier diagnoses,[101,103,104] than their White counterparts in Canada, the U.K., and U.S.A., indicating race as a significant predictor of these outcomes.

Canadian studies show conflicting evidence on the impact of race on cardiovascular health access and outcomes. Factors such as gender, SES, sexuality,[90] place of birth, and immigration status,[3] have differential impacts on the likelihood of reporting hypertension in Canada. Yet, cardiac rehabilitation outcomes are comparable or better for South Asians than their White/European counterparts.[105,106] South Asians registered in the Canadian Cardiac Rehab Registry (CCRR) were significantly younger, and more often had family history of cardiovascular disease, were diabetic, and had a higher BMI, compared to White participants, indicating disparities in underlying risk factors.[105] Importantly, evidence suggests that South Asians report lower adherence to antihypertensive medication use than White individuals,[101,107] though optimal adherence is not associated with reduced mortality.[107] On the other hand, South Asians adhere better than Whites in using diabetic and antiplatelet medications.[101]

In addition to lifestyle factors such as physical inactivity, alcohol use, smoking, and higher BMI that increase the risk of early diabetes onset, more so for South Asian and other minority women in Canada and the U.K., other risk factors include education, full-time employment, low income, immigration, and hypertension.[3,91,102,108]

In the U.K., South Asians are less likely to be obese, or more often report lower BMI, compared to their White counterparts,[91,109] though generational differences lower this gap.[91] Further, controlling for SES widened the gap in blood glucose estimates, where Bangladeshi children with Type 1 diabetes had significantly higher mean blood glucose than White U.K. children from the time of diabetes diagnosis to 6 months post-diagnosis.[110]

Studies in the U.S.A. report that South Asians are diagnosed with Type 2 diabetes 10 years earlier than Whites after adjusting for variables such as sex and age of diagnosis.[101,104] Despite this, South Asians in the U.S.A., like those in the U.K., also reported less obesity than White populations.[111] However, a higher proportion of South Asians were sedentary and did not consume the daily requirements for fruits/vegetables as compared to Whites.[111]

Despite being diagnosed at a younger age, Indians in Australia have better survival rates for Type 2 diabetes than Anglo-Celtics.[103]

Smoking and Drinking

South Asians in Canada, the U.K., and the U.S.A., engage in drinking and smoking less than White populations, though Canadian South Asians exhibit larger gender-based differences for drinking.[101,109,111,112]

Pregnancy risks and outcomes

South Asians are generally more likely to experience adverse pregnancy-related outcomes than their White counterparts.[109,113–117]

In the U.K., women of Pakistani and Bangladeshi origin had higher crude infant mortality rates, death rates due to congenital anomalies or infections, higher odds of death for both preterm and full-term infants,[116] and absolute risks of stillbirth,[117] than White women. South Asian mothers have marginally lower odds of spontaneous abortion than Whites, though the strength of this association with South Asian ethnicity increases with age and BMI, indicating the effect-modifying properties of these factors on spontaneous abortion.[118] Studies report conflicting findings on pregnancy risks for South Asian women than White comparators,[114,116] though gestational diabetes (GDM) is more common amongst South Asian women.[109] Accounting for sociodemographic factors did not explain preterm and full-term ethnic disparities,[116] although deprivation was significantly associated with stillbirth in Bangladeshi mothers.[117]

In the U.S.A., South Asian women were found to have lower pregnancy risks than White women, except for GDM which South Asian women experience more commonly than White women,[113] much like in the U.K. Indians in the U.S.A. with GDM have a higher risk of small-for-gestational-age infants than non-Hispanic Whites, although these differences essentially nullify after adjusting for covariates.[119]

Other outcomes

Other examined outcomes covered an autoimmune disease, respiratory conditions, cancer, stroke, and preventable hospitalizations and death.

Ankylosing spondylitis (AS) - A U.K. study comparing the response to anti-TNF therapy among South Asian and White patients with AS found that regardless of smoking status, South Asians had poorer clinical outcomes following anti-TNF therapy than White patients.[120]

Asthma - In Canada, there is little evidence for inequalities with asthma between South Asians and Whites in Canada.[3] In the U.K., first-generation South Asians are significantly less likely to have asthma than White individuals, and second generational South Asians are significantly more likely to have asthma.[91]

Cancer - Studies reporting on cancer-related outcomes indicate that South Asians in the U.K. and the U.S.A. present at more progressive stages than White individuals,[80,121,122] although breast cancer survival outcomes for South Asian women are generally better than those for White women.[122,123]

Chronic conditions - South Asians in the U.K. report more chronic conditions that limit daily activities compared to Whites, with immigrants faring worse, suggesting generational differences.[77,81,91,94]

Functional lung capacity - In the U.K., SES and birthweight do not contribute to South Asian vs. White differences in the functional lung capacity of young adults, although parental immigration impacts outcomes independent of ethnic group.[124]

Preventable hospitalization and death - In the U.K., South Asians have higher risks of preventable hospital admission and readmission than White individuals, highlighting gaps in access to and quality of primary care.[79] However, South Asians also have lower risk for preventable, amenable, avoidable death.[79]

Stroke - South Asians in Canada have similar acute ischemic and hemorrhagic stroke outcomes as Whites, but they are more likely to experience severe stroke.[93] However, the risk factors and stroke characteristics differ between the two groups, with South Asian patients more likely to be male, younger, and have comorbidities.[93]

Mental Health

Fourteen articles discussed mental health and social well-being outcomes among South Asians and White populations in Canada (n=4), the U.K. (n=8), and the U.S.A. (n=2).

Several studies conducted in the U.K. found that South Asians, namely those of Pakistani origin, were more likely to describe and experience depressive symptoms[78,84] and psychological distress,[78,83,125] among other mental health conditions,[85,125,126] compared to White individuals. Additionally, South Asians with low to moderate psychosis experiences were more likely to attribute their experiences to supernatural causes, and previous mental health problems were associated with lower stigma.[127] Anxiety and low mood symptoms were commonly reported after experiencing a cardiac event, especially amongst Bangladeshis.[128]

Canada and the U.K. shared few similarities. Interestingly, suicide rates and lifetime ideation were lower among South Asians than White individuals in both countries.[126,129] Studies also commented on sense of belonging and social capital. South Asians across ages and genders in Canada had the highest sense of belonging (29.2%) compared to White and other ethnic groups.[129] These findings were mirrored in another U.K. study which found that Bangladeshis and Pakistanis reported higher levels of social capital, acting as a protective factor against mental health problems (OR=0.94).[83]

There were contrasting findings across Canada on South Asian mental health outcomes. While one study found that South Asians had significantly higher levels of anxiety compared to White individuals,[92] another reported that South Asians had significantly lower rates of physician-diagnosed mood or anxiety disorder compared to White people after controlling for confounders.[129]

A third study found that South Asians generally scored similar to White people on distress, psychological well-being, self-rated mental health, and major depressive episode.[87] With regard to psychological well-being, South Asian men fared better than White men after controlling for confounding factors, although this advantage was offset by poor coping practices.[87] In the context of the COVID-19 pandemic, South Asians reported poor mental health outcomes, resulting from increased exposure to the disease, related discrimination, and stigma.[130]

Two studies based in the U.S.A. examined mental health outcomes. Generally, South Asians have similar attitudes towards mental illness and help-seeking as Whites.[131] Still, low health literacy significantly contributed to South Asians reporting worse depression symptoms than White individuals, despite having the lowest limited English proficiency among Asian subgroups and earning well above the poverty line.[132]

Across the majority of studies, mental health outcomes were often worsened by low socioeconomic status, low social support, and low social embeddedness.

Access to Health Services & Health Service Utilization

Thirty-four articles discussed outcomes related to access to services, which were primarily from the U.K. (n=23), followed by the U.S.A. (n=6), and Canada (n=5). Thirty-three articles discussed outcomes relating to health service utilization following a similar pattern (U.K., n=21; Canada, n=6; U.S.A., n=5; Australia, n=1). Common themes identified across these studies include communication (i.e., language barriers, and HCP cultural misconceptions and assumptions), health literacy, screening and testing practices, prescribing and referral practices, and service accessibility and utilization.[6]

Communication & Health Literacy

South Asians across the U.K. and the U.S.A. more often reported that their healthcare providers (HCPs) did not check their understanding relating to diseases and treatment plans than their White counterparts and that their HCPs often failed to provide clear and consistent information regarding their clinical management; they also cited language barriers, lack of sensitivity, use of technical jargon, and infrequent and low quality communication, hindering their access to care.[82,133–138] These factors have led to South Asians, particularly Bangladeshis, being less satisfied with communication and information provision across the care pathway and less likely to receive satisfactory explanations for side effects.[134] Contrastingly, one U.K. study that asked individuals to rate the quality of communication in a GP consultation simulation found that Pakistanis, on average, rated such communication 9.9 points higher than White individuals.[139] The authors highlighted that the poor care experiences reported by Pakistanis in national surveys represents genuinely worse experiences of communication than White British.[139]

As evidenced in Canada, the U.K., and the U.S.A., language is a substantive barrier in accessing care: limited English proficiency is associated with reduced communication from HCPs[82,133,135,138,140,141] and reduced acceptance of therapeutic services.[136] Studies have also shown

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[6] Note that socioeconomic (SES) and gender factors are not described in detail here as they are integrated into the CRT analysis within the discussion.

that language concordance, or availability, in healthcare settings for South Asians improved their health, particularly for Bangladeshis in the U.K,[140] and that speaking English resulted in better health outcomes and satisfaction with health services.[135,138] However, few studies reported conflicting findings where despite such barriers in communication, South Asians had shorter waiting periods, increased acceptance of health-related services, and comparable or better outcomes than their White counterparts.[89,103,142,143] As Mackay et al. note, this may be a result of HCPs wanting to decrease the time allocated for assessment due to language barriers, or because patients may have lived in Canada for a long period, increasing their language familiarity.[89] Another study reports that South Asian patients felt more "energetic" likely leading to their decreased need to interact with primary care physicians.[144]

Relatedly, health literacy was named as a common barrier in Canada, the U.K. and the U.S.A., to accessing and using health services among South Asian populations, particularly immigrants and migrants, over their White comparators.[85,132,137,145,146] Low health literacy among South Asians has been significantly associated with worse depressive symptoms, likely influencing lower willingness to seek healthcare services and the inability to comply with treatment recommendations.[132]

Screening and Testing Practices

Several studies in the U.K. and the U.S.A. established that South Asians have lower colorectal cancer screening uptake compared to White individuals.[111,135,147,148] Factors such as fluency in English, older age, healthcare access, health attitudes, having health insurance, and a regular primary care physician, were identified as predictors of colorectal cancer screening; sex and employment were also identified as predictors specific to Indians.[135] Specific to the U.K., religion was also found to impact screening uptake, with religions commonly associated with South Asian ethnicity (i.e., Hindus, Muslims, and Sikhs) having lower uptake rates compared to followers of the Church of Scotland.[147] Moreover, evidence on COVID-19 testing in the U.K. is consistent in demonstrating that South Asians disproportionately tested positive for the virus[76,85] though Whites were more likely to be tested than South Asians and other minorities,[85] especially if they were mild or asymptomatic,[76] signifying disparities in access to testing.

Prescribing and Referral Practices

In the U.K., referral rates for dementia diagnostic services (i.e., memory assessments),[84,149] among other therapies,[120] were lower among South Asians compared to White individuals despite showing increased risk levels. Referrals for dementia diagnoses showed greater disparities among South Asian women, those whose first language was not English, and/or immigrated to the country,[149] indicating immigration and language as modifying factors on timely access to such services. Relatedly, among patients with dementia, South Asians and other ethnic minorities had significantly higher odds of polypharmacy regimens than White individuals, which increased the risk of adverse outcomes like hospitalization and mortality.[84] Clozapine is prescribed as an antipsychotic medication in lower doses to White individuals than Bangladeshis, though authors note there are biological differences in metabolism as well as other factors (e.g., co-prescription), that may affect these disparities.[150] Lastly, colorectal cancer screening is most often achieved via referral from a primary care physician/GP, though screening reduced odds of lymph node involvement and cancer metastasis; this is especially important as South Asians present with higher odds of lymph node involvement than White individuals.[121]

For Canadians registered in cardiac rehabilitation (CR) programs, despite CR being universally beneficial for patients, referral rates are lower for South Asians. Still, they have better attendance rates, and all those who complete CR have improved survival regardless of ethnicity.[106] This differential in referrals and attendance is important as South Asians would particularly benefit from CR services.

Service availability, accessibility, and use

In the U.K., several studies report slower access to clinical or therapeutic services for South Asians due to being viewed as lower risk by clinicians.[120,126,145,151] Other studies from the U.K., as well as from Australia, Canada, and the U.S.A., indicate no differences or even better wait times and treatment intensification for South Asians.[93,96,123,152,153]

In the U.K., South Asians, including healthcare workers, during the COVID-19 pandemic, remained less likely to get vaccinated and exhibited higher vaccine hesitancy than their White counterparts,[86,154] citing worries about side effects and uncertainty about vaccine efficacy and safety.[154] Likewise, ethnic and subgroup differences were observed in routine childhood immunization in the U.K.[155,156] In contrast, the odds of receiving flu vaccinations in the U.S.A. did not significantly differ between South Asians and White individuals.[142] South Asian women in the U.K. also prefer to be cared for by female physicians.[137]

Factors associated with the lower uptake of colorectal cancer screening among South Asians in the U.S.A. compared to Whites show that uninsured South Asians are more likely to receive timely colonoscopies than insured South Asians,[148] but they tend to have a regular doctor less than White counterparts.[135] In support of this, frequency[132] and timeliness[113] of doctor visits among Whites were higher than South Asians in the U.S.A. where universal coverage is not available.[132]

In Canada, there is evidence that shows universal coverage improves access to care and reduces racial disparities.[157] South Asians among long-term immigrants in Canada reported having a regular doctor more than White counterparts, and having health insurance, which promotes their health equity.[157]

Further, among acute coronary syndrome patients in Canada, emergency medical services (EMS) is activated frequently among South Asian patients than Whites, although across ethnicities, women activate EMS significantly more than men.[158] That said, South Asians are significantly less likely to complete ambulatory blood pressure measurement compared to White individuals who have the highest BP measurement completion rates across all methods.[158]

In Canada and the U.K., mental health service use also varies drastically between South Asians and White populations, with the latter being more likely to seek help from a psychiatrist, or more commonly, from a family doctor.[92,127,129] South Asian women in Canada and the U.K. also tend to access essential services less due to internal and external barriers[84,86,89,157] relative to South Asian men.

Limitations

The reviewed literature commonly discussed several limitations, among which the most notable was the restricted sample size of South Asians in comparison to the White reference population.

This limitation was especially pronounced in larger, administrative data-based studies, resulting in a lower MMAT score. In addition, the heterogeneity of South Asians was inadequately explored due to limited participation from some subgroups, as evidenced in sample recruitment and analyses. Studies also highlighted that administering surveys, questionnaires, and other materials solely in English often restricted participation to fluent English speakers. Moreover, studies frequently encountered challenges in obtaining data on significant confounding factors, such as individual income (rather than household income), use of neighborhood or larger area deprivation instead of household income, and occupation or employment, among others.

Recommendations

The reviewed literature recommends targeting educational efforts to improve health literacy among South Asian populations, with a focus on increasing awareness of services including screening programs for cancer and pregnancy risks, among other conditions, as well as modifiable risk factors for chronic conditions. Additionally, health services should be planned and delivered accounting for the possibility of lower English fluency, geographical accessibility, cultural misunderstandings, misconceptions, and immigration and generational differences among South Asian populations. Improving the availability of South Asian languages in healthcare settings is essential for effective communication with patients and increasing the representation of diverse and multilingual healthcare practitioners, especially female HCPs, can facilitate improved healthcare access and use for South Asians. Personalized approaches in clinical treatment plans are necessary, and community-level and systems-level health promotion initiatives are needed to improve the accessibility of services for marginalized South Asian populations. A limited number of studies recommended that policies, education, and interventions should reflect the heterogeneity of South Asians, employing intersectional approaches in health research. Studies overwhelmingly noted the impact of the social determinants of health and the need for policies to address them in reducing ethnic health disparities. Based on the reviewed findings, policies and programs that promote accessibility of services and health information to South Asians, particularly Pakistanis and Bangladeshis, will improve their health equity, although subgroups were not equally represented in the reviewed studies to draw definitive conclusions.

DISCUSSION:

This study highlights literature on the associations between the race, ethnicity, and health-related outcomes of South Asians. Although there is a mountain of evidence demonstrating how racial discrimination is a determinant of poor health including access to and use of healthcare services,[17,39–42,51,61,159–161] this review contributes new knowledge specific to South Asians: there are limited comparative studies that examine South Asian and White health disparities, and structural, organizational, and individual racism are not widely explored or discussed as determinants of health outcomes. In the following sections, I present my contextualized findings, implications of this research, methodological considerations, and propose avenues of future research.

Race-based Health Data Collection

Canada, the U.S.A., the U.K., Australia, and New Zealand all differ in their collection and use of race and ethnicity health data. Still, the applications of such data for health promotion interventions and policies are well-established.[4,9,162–170] While the U.K. and U.S.A. have longer histories of routinely collecting race- and ethnicity-based data, Canada is well-behind despite its highly multiethnic and multicultural population. This systematic review is an exemplar of this phenomenon, with over 50 studies published in the U.K. that fit the inclusion criteria, compared to 19 in Canada.

In the U.K., stigmatization, discrimination, and the inconsistent and incomplete nature of the data, have generally limited race-based health data collection. Despite the National Health Service (NHS) routinely collecting patient ethnicity data since the 1990s, the quality and completeness of the data have been called into question.[163,164,171] The U.K. government introduced the Workforce Race Equality Standard in 2017, mandating HCPs to collect staff ethnicity data, neglecting an equivalent requirement for patient data.[172] Much like the U.K., the U.S.A. has historically collected race-based data, also sharing their concerns around data quality, privacy, reporting, and usage.[165,168] Race and health data were first collected late in the 19th century,[173] since expanding to cover indicators including mortality and health behaviours. The Office of Management and Budget (OMB) established the first guidelines on race and ethnicity data collection in 1997, which are largely maintained to date; categories include American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White, with an ethnicity category classification of Hispanic or Latino, or neither.[174,175] Later, the 2010 Affordable Care Act required healthcare settings to collect demographic data in accordance with the OMB standards.[176] JAMA guidelines reinforce the need to avoid using broad terms like “Asian”, which have and continue to be combined with “Pacific Islander” and/or “Native Hawaiians” in health research,[74] as observed in some of the reviewed studies. This practice limits the applicability of research findings for developing targeted health promotion policies and activities.

In Canada, race-based health data collection has been a contentious issue due to the country’s colonial history and systemic discrimination against Indigenous people and racialized communities. There are also no shared standards on data collection between the provinces and territories. The collection of ethnicity data dates to the early 20th century and subsequent censuses have continued to collect this information; however, usage of this data to evaluate equity has been limited to a select few employment sectors, notably excluding medicine and healthcare.[4] The 2019-2022 federal anti-racism strategy committed to the enhanced collection of disaggregated data and data on racism and discrimination,[177] yet the 2021 census reflected no changes from previous years.[4] Accordingly, calls have been made to improve the collection of race- and ethnicity-based data to better inform health promotion initiatives and policies.[4,9] For instance, the Ontario Human Rights Commission (OHRC) emphasized the importance of collecting and using race-based data to combat COVID-19 disparities in 2020, three years after requesting the collection of such data under the Anti-Racism Act.[178] However, the Canadian government refused to collect disaggregated race and health data in the early stages of the pandemic. Peel Public Health led the efforts to collect data using postal codes to identify at-risk neighborhoods of their own accord,[4,167] kickstarting collection of race-based data in Canada. The Public Health Agency of Canada (PHAC) followed suit and announced their initiative to collect national sociodemographic data late in 2020.[4,179]

Australia and New Zealand face similar challenges with the collection and use of race and ethnicity data in healthcare. Australia lacks a national standard for the collection of this data.[180] For example, Dune et al.[181] report that psychologists are not classified by race or ethnicity beyond Indigeneity, which lacks granularity with regard to other racial or ethnic groups, significantly limiting the interpretations and applications of this data for health system planning. The Australian Bureau of

Statistics (ABS) collects data on ethnicity through the Census, but this data is not linked to healthcare records, which inhibits the ability to understand the complex issues facing their multicultural populations.[180,182] Although federal promises were made, Victoria was the only state to develop its own system for collecting ethnicity data during their COVID-19 vaccine rollout, while other states and territories varied in their measures, from country of birth to preferred language or Indigeneity, or no data collected at all.[180,183] In New Zealand, the collection and use of race- and ethnicity-based health data has recently become a higher priority in health policy.[184] In the early 2000s, the New Zealand Ministry of Health began developing an ethnicity data protocol for the collection and use of ethnicity data in health research and reporting.[180,185,186] However, New Zealand also struggles with disaggregated data, particularly for Asian subgroups who are often aggregated together under the term "Asian", neglecting the considerable diversity within this population.[186] Other concerns for this group include the quality and completeness of health data reporting and research.[186]

Although challenges remain, collecting race and ethnicity health data is crucial for promoting the health of South Asians and other equity-seeking groups. The accuracy and completeness of self-reported data are also worth closely monitoring, as well as inequities in access to health care that can limit the usefulness of this data.[9,162,165,166,171,187] Concerns about the misuse and interpretation of this data necessitate efforts to collect data on the downstream impacts of systemic racism in healthcare systems and ensure that it is used to improve health equity.[162,164,166–168,176,179,180,183,186–189] However, progress has been made in recent years. Guidelines from JAMA emphasize using disaggregated data, expressly when participant country of origin is known.[74] The U.K. government published similar standards, informed by a consultation period in 2022.[190] Both the Canadian Institute for Health Information (CIHI) and Canadian Medical Association Journal (CMAJ) also recently published standards and guidelines for collecting, using, and reporting race and ethnicity data.[191,192] The CIHI standards however are intended to be used among patients, though healthcare workforce data is also crucial[4] to inform structural and organizational policies to inhibit racism, bias, and prejudice in the Canadian healthcare system. The Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG) and similar efforts in New Zealand are being made to better collect and classify ethnicity data.[182,193,194] Ongoing calls to improve disaggregated data collection and use continue to be made, including the development of more inclusive race and ethnicity categories. Without reliable and complete disaggregated data, health disparities cannot be adequately captured, hindering equitable health policies and programs in societies built on structural racism. This is reflected in the reviewed literature, with the limited availability of health data on South Asians residing in these countries despite their large populations.

Contextualizing findings

Despite the recognized importance of studying health disparities and outcomes among South Asians in White-majority countries, there has been no overall increase in the number of comparative studies conducted in the past decade. Disaggregating studies by country however, there has been an increase in comparative studies from the U.K. (+85%), although this growth cannot solely be attributed to research on COVID-19 outcomes. Conversely, studies from Canada and the U.S.A. have declined over the 10-year period (-82% and -64% respectively). One possible explanation for the higher number of studies in the U.K. may be attributed to the earlier waves of immigration from South Asian countries to the U.K., which started in the 1950s and 1960s, compared to the larger waves coming into Canada and the U.S.A. in the 1980s and 1990s. Australia had very limited studies and New Zealand had none that were captured in the searches, suggesting that comparative research focussing on South Asian health in these countries is well overdue. These findings are still surprising given that even during the COVID-19 pandemic, only a small proportion of reviewed studies focused on COVID-related outcomes among South Asians and White individuals.[76,86,95,97,98,125,130,154] It is worth noting that a host of academic publications have demonstrated and discussed racism against South Asians during the pandemic. However, several of these articles did not meet the predefined inclusion criteria, with a slight possibility that few articles were not captured by the searches—an inherent limitation of any systematic review. Consequently, future studies may wish to focus examine evidence on all outcomes associated with the COVID-19 pandemic, particularly those examining racial and ethnic health disparities between South Asian and White populations.

More concerning than the lack of growth in comparative literature is the little number of comparative studies that discuss observed inequities in healthcare access, utilization, and outcomes among South Asians due to structural and organizational racism, as well as individual racism. Instead, these studies predominantly focus on the impacts of various social determinants of health (SDOH) that are proxies for structural racism, such as neighborhood deprivation, education level, income/SES, and employment, among others.[195] These factors do not adequately capture the role of structural racism in contributing to health inequities.[69–72] Notably, U.K. studies on South Asian health inequities more prominently measure neighborhood and/or social deprivation than studies from Canada and the U.S.A., suggesting a lack of measurement and reporting of this important variable in North America. Additionally, important measures such as religion, housing, language, racialized organizational and institutional policies, and internalized racism, which intersect with other SDOH, are often excluded, or inconsistently described in health disparities research. Examining these measures alongside the commonly studied SDOH can help researchers understand how intersecting identities and structural racism contribute to South Asian health inequities.

The challenges associated with collecting and using disaggregated race, ethnicity, and health data may have contributed to the variability in the quantity and quality of comparative studies reviewed, although the decrease in published studies from the U.S.A. and Canada warrants attention. One plausible explanation for this decline is the increase in non-comparative studies that explore the unique challenges, barriers, and facilitators related to achieving optimal health outcomes and accessing healthcare services for South Asians and other racial and ethnic minorities. With the heightened calls for disaggregated data over the past few years, researchers may be more inclined to understand the impacts of systemic and structural racism in healthcare within South Asian groups and compare the effects of sociodemographic factors on these outcomes. A scoping review of English-language articles published in 2022 reported a steady increase in the number of articles discussing racism in healthcare since 2005, with a significant spike from 2019 to 2020.[196] This scoping review extensively comments on the discrimination experienced by racialized healthcare users and staff across multiple countries, as well as the impacts and perceptions of these incidents among these populations.[196] The scoped studies also highlight that implicit racial bias exhibited by healthcare staff contributed to disparate treatment access and plans for healthcare users.[196] Moreover, a systematic review and meta-analysis of predominantly U.S.A.-based literature from 1983 to 2013 examined racism as a determinant of health. The study confirmed findings that racism was associated with poorer mental health, physical health, and general health, with ethnicity acting as a significant effect moderator, namely for Asian Americans and Latino/Latina Americans.[42] Further, though racism is more strongly associated with negative mental health outcomes than physical health,[42] comparative studies on the mental health of South Asians included in this review are overshadowed by those examining physical health outcomes. However, there is an abundance of research that explores the unique mental health challenges facing South Asians.[64,161,197–203] These findings indicate a growing focus on studying the experiences of racialized populations in healthcare settings, despite a limited increase in the number of comparative studies. This shift towards understanding the unique worldviews and narratives of South Asians values different ways of knowing and improves healthcare research and practice. Still, the limited number of comparative studies examining all health-related outcomes, especially the impact of racism, emphasizes the need to investigate funding infrastructure and allocation for research addressing health disparities that face South Asians and other equity-seeking communities.

In contextualizing the reviewed health disparities literature, it is important to consider how racism is discussed, if at all, in this field. The reviewed literature reveals a lack of dialogue regarding racism, especially structural racism as a fundamental driver of South Asian health inequities. This finding aligns with a 2021 study by Krieger et al.,[204] which reported that less than 1% of articles published in top medical journals from 1990 to 2020 mentioned the term 'racism' in the article text.[205] The present systematic review excluded non-empirical articles, and the study by Krieger et al. further highlighted that articles mentioning ‘racism’ were largely opinion pieces,[205] indicating a reluctance to publish empirical evidence linking racism to health inequities. However, towards the end of the review period (2020-2021), there was a noticeable shift in the medical community's perspective on race as they moved away from the biological/race naturalism approach towards a racial constructivism approach in health research and practice. Of note, JAMA continued to publish papers linking biological-based race to racial disparities in COVID-19 mortality within the U.S.A. until 2020.[4,205] This shift can be attributed, in part, to the growing recognition of the need to collect disaggregated race and ethnicity health data to address the disproportionate risks faced by racialized and marginalized communities during the COVID-19 pandemic. The pandemic highlighted various social and health injustices, including inequitable access to healthcare and vaccinations, as well as increased risks for racialized frontline workers in multigenerational housing. These circumstances compelled a better understanding of race and ethnicity in healthcare and research, especially in countries like Canada with deeply embedded social and racial hierarchies in their legal institutions and government structures. Racial and ethnic minority academics and health experts, who have long advocated for shifting away from the biological basis of race, began gaining recognition from the broader community, public health officials, and policymakers during this global crisis. The growing acceptance of a racial constructivism approach, even if not explicitly acknowledged, is a positive development that hopefully leads to further research on South Asian health inequities. The lack of emphasis, funding, and journal efforts to publish research on racism in health disparities is also concerning and needs to be addressed to promote transparency and progress in this field.

Applying Critical Race Theory to understand South Asian health inequities

Critical Race Theory (CRT) emerged from legal studies in the United States, examining the intersection of race, power, and law in perpetuating systemic inequities and injustices. Within this framework, storytelling is a powerful tool that challenges racial biases and inequalities, disrupts dominant narratives, and reveals the impact of racial oppression in legal and social structures.[67] Pioneers of CRT, such as Richard Delgado, stressed the use of storytelling to empower marginalized communities, reclaim their narratives, and enhance societal understandings of race and power dynamics.[67] Expanding beyond its legal foundations, CRT has applications in healthcare and research, as exemplified by this systematic review, by offering insights into how the social construction of race and structural racism adversely affect healthcare access and outcomes for South Asians in predominantly White countries. By centering marginalized voices and experiences, storytelling sheds light on racial inequities in healthcare and challenges biased assumptions and stereotypes, ultimately fostering more equitable healthcare practices.

However, academia and healthcare prioritize objectivity and empirical evidence in traditional modes of knowledge dissemination, excluding storytelling and subjective knowledge. Academic publications value Eurocentric sources, neglecting to complement scholarly works with enriching personal narratives and anecdotal evidence from marginalized communities. The current systematic review is not exempt from this, especially in acknowledging the limited available qualitative studies. In healthcare spaces, storytelling faces challenges as healthcare professionals and policymakers may resist narratives that challenge established norms or expose systemic biases within the healthcare system, favouring quantifiable data and scientific evidence, thereby limiting the recognition of storytelling's importance in addressing health inequities.

Recognizing these limitations, academia and healthcare must embrace alternative forms of knowledge. Incorporating storytelling, oral histories, and community-based research fosters inclusivity, centers marginalized voices, and challenges dominant narratives. Storytelling remains crucial in fighting racial injustices to address health inequities and advocate for equitable healthcare practices.

This review highlights the limitations of the biological-based race approach and the overreliance on the social determinants of health (SDOH) in medical education and research, emphasizing the importance of CRT in understanding the impact of structural racism on health inequities. These conventional approaches fail to encourage critical self-reflection, acknowledge and address the origins of health inequities, and educate professionals and scholars on challenging and advocating against injustice within healthcare and government systems.[11] While the SDOH fall short in accurately capturing the influence of systemic racism[11] on various domains such as health, technology, social welfare, criminology, and housing, CRT acknowledges the historical roots of health inequities among racialized minority communities. For instance, the current SDOH confronting South Asians, such as economic instability and poor built environments, are rooted in the settlement histories, including forced migration due to ethnic cleansing or indentured labour. However, these historical perspectives are often overlooked within the SDOH framework, furthering the adverse healthcare experiences of racialized communities. By adopting CRT, we can dismantle biological racism, embrace and employ a racial constructivism approach, utilize historical contexts to shape health policies and interventions, and deepen our understanding of the pervasiveness of racism.[4,11,53–55,206] Consequently, structural racism emerges as a fundamental determinant of health, with its downstream effects reflected in the commonly studied SDOH (refer to Figure 3). Analyzing these complex relationships elucidates the role of racism in health inequities, particularly among South Asians in Western countries.

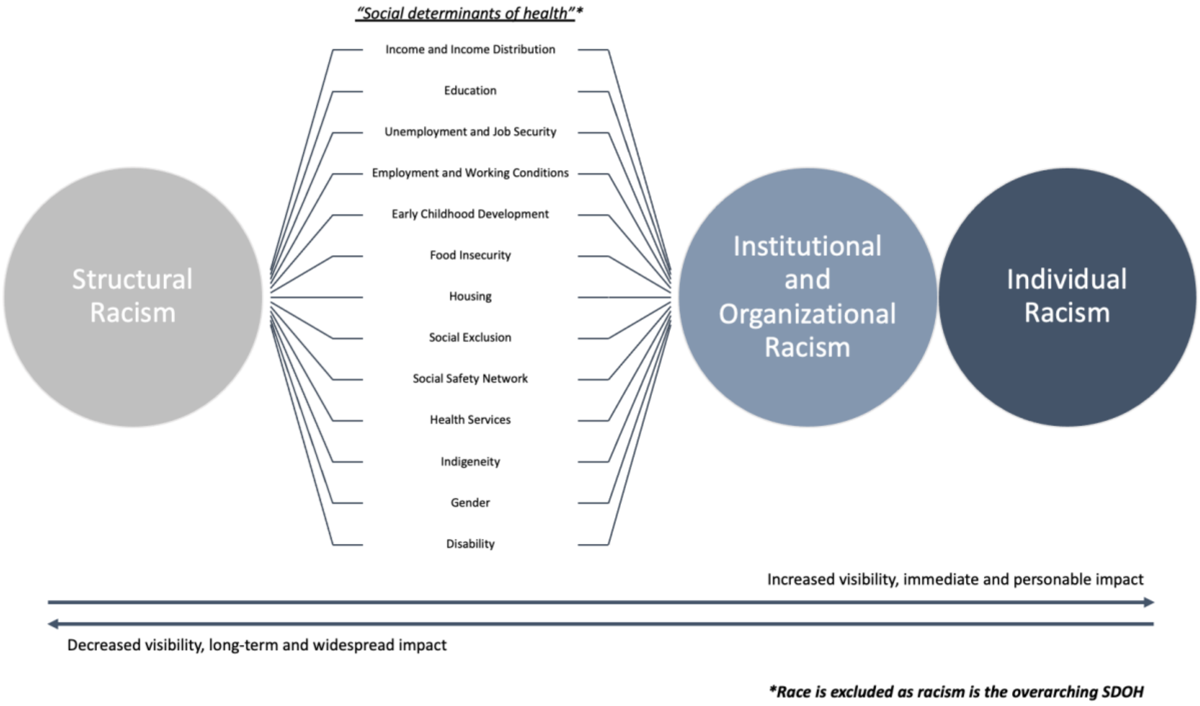

Figure 3. Structural racism as the driver of health inequities (i.e., the contributing factor of the other social determinants of health). The SDOH list is adapted from Mikkonen & Raphael (2010).[207]

While migrating, immigrating, and acculturation may contribute to the stressors experienced by South Asians in Western countries, negative health outcomes in this population are predominantly the resulting effects of systemic racism and discrimination. The CRT framework can help in understanding this relationship within the context of the countries examined in this review. Studies conducted in the U.S.A. have shown that acculturative stress and racism experienced by South Asians are associated with symptoms of anxiety[208] and depression.[83,208,209] However, a recent study notes that everyday racism better explained these observed outcomes than the effect of acculturative stress and other sociodemographic factors, highlighting how racism should be examined on a grander scale as a measure of health disparities among South Asians.[208] For instance, one reviewed study from the U.K. reported that South Asian women, along with other minority women, faced challenges in accessing cervical cancer screening in light of the ignorance, racism, and inadequate representation in the training and experience of healthcare professionals.[82]

The healthcare experiences of South Asians were often worsened by gaps in communication and language barriers with HCPs. Healthcare providers were cited for their inability to provide clear, consistent, and accessible information to South Asians regarding their disease or treatment, as well as their lack of sensitivity, ability to answer questions, and avoidance of jargon, when communicating with patients and/or family.[82,133,134,136,138,140,141] In a Canadian study, South Asian and Chinese participants emphasized the importance of their HCP in establishing trust and spending adequate time communicating medically necessary information.[141] Additionally, participants expressed the need to seek additional information from written materials and online sources.[141] English fluency and/or English spoken at home are conducive to favourable health outcomes and experiences,[134,135] although the availability of South Asian languages in a healthcare setting vastly improves these outcomes among South Asian patients.[138,140] Limited English proficiency results in negative outcomes and experiences for South Asians in healthcare settings, especially for Pakistanis and Bangladeshis who are more often limited in their English proficiency than Indians.[82,134,136,141] Notably, few studies revealed that language barriers improved survival[103] and wait times[89] for South Asian patients compared to White patients, although this may be a result of providers being cautious due to the language differences.[89]

Poor health literacy, which systemic and institutional factors such as discrimination and marginalization play a role in, also contributes to the poor health-related outcomes observed among South Asians. Those with limited health literacy were often unaware of available screening, preventative, rehabilitative, and treatment programmes across a multitude of physical and mental health conditions, and are often embarrassed or worried about seeking care for health issues with foreign-born South Asians being overly vulnerable.[82,132,146] This has downstream impacts on the severity of diseases at care initiation such as cancer progression,[80,111,121,134,135,137,147,148] diabetes,[96,103,104,110,151] and pregnancy-related outcomes,[109,113–119] further indicating the importance of timely and accessible health information. The literature suggests more frequent and in-depth consultations and education sessions, as well as health materials that are communicated verbally, which are better received and comprehended than written materials for South Asians.[76,96,139,146]

Access to care and resources is also heavily dependent on the risk assessments of, and referrals offered by, clinicians and healthcare systems. South Asians had delayed referral for, and initiations of, therapeutic services more often than White individuals.[96,113,120,145,151] For instance, implantable cardioverter defibrillator implantation rates were significantly higher among White patients in the U.K. than South Asians.[145] Another example demonstrates that South Asians are disproportionately represented in the Canadian Cardiac Rehabilitation Registry; once registered however, they have comparable outcomes and functional cardiac capacities as White patients.[105] Prescribing practices also favoured White patients over South Asians for a variety of mental health and physical health issues, despite showing more risk factors and increased disease burden.[84,96,149,150]

Socioeconomic factors, such as income, education, deprivation, and employment, contribute to South Asian health disparities. More importantly, the intersections of these factors with race, ethnicity, gender, and immigration status under systems built on racial hierarchies and White supremacy, exacerbate negative health outcomes among South Asians. These outcomes include poor self-rated health and mental health issues,[3,77,81,83,91,94] lower vaccine coverage,[210] and higher rates of adverse pregnancy outcomes (e.g., stillbirth),[113,114,116,117] among others.[86,93,102,121,135,137,211] The negative impacts of the aforementioned factors on South Asian health are also mirrored by non-comparative studies. [212,213] Interestingly, while low income has a stronger negative influence on South Asians than White populations,[75,87,94,107,108] some studies indicate higher income, education, and lower deprivation among South Asians.[90,101,124,132,214] However, these findings are limited due to underrepresentation of lower socioeconomic groups in study samples.[109,112] Additionally, lower income and education levels are often reported by Pakistanis and Bangladeshis compared to Indians,[77,81,113,116,117] further affecting the interpretation of findings. Other evidence also suggests that South Asians are comparable or more likely to be college-educated than White individuals, and that having full-time employment can also contribute to adverse health outcomes, where the impact of these factors differ based on gender and immigration/generation status.[90,101,109,124] For instance, a U.K. study found that risk factors associated with early diabetes onset include bachelor's education in men only and fulltime work compared to unemployment, although accounting for all lifestyle and modifiable factors, South Asian women exhibit a higher risk.[102] Further, participation in universal coverage health insurance and Medicaid has been shown to generally improve health outcomes and healthcare access for South Asians.[135,142,157] In the U.S.A., having at least some high school or college education and living in the country for at least 20 years almost doubles the likelihood of South Asians having health insurance than those who have less than high school education and/or have lived in the U.S.A. for 5 years or less.[215] Canadian findings support these trends as among longer-term immigrants in Canada, South Asians were less likely to lack a regular doctor than White individuals.[157] Moreover, South Asians who received a routine health check were over six times more likely to have health insurance than those who did not.[215] The complex relationship between socioeconomic factors, race, ethnicity, and gender, in shaping health disparities among South Asians requires closer examination, including an exploration of the underlying mechanisms contributing to differential risk factors.

The COVID-19 pandemic is a noteworthy example to use for a CRT analysis that uniquely highlights the deep-rooted systemic inequities that continue to plague South Asians. This is particularly true as federal and provincial policy responses have disproportionately impacted ethnic minorities, newcomers, and immigrants.[63,130,159,216] During the pandemic, South Asians were hit hard with disproportionate rates of COVID-19,[63] lack of culturally-sensitive information,[159,217] and increased stigmatization, discrimination, and hate crimes[130,218,219] among other factors.[63,161,217,220] Peel Region in Ontario, with its large South Asian community, was deemed a COVID-19 hotspot at the height of the pandemic.[1,221] However, various levels of government and other health officials cited multigenerational homes and religious or family festivities as the main drivers of increased transmission,[1,221] without considering the roles of income, employment, housing, and cultural factors. Many South Asians from students to older adults did not qualify for federal benefits or monetary assistance due to their immigration status.[63] These communities often performed lucrative, laborious work on the frontlines in healthcare, hospitality, and factories, increasing their risk of COVID-19.[1,63,130,219,222] Quarantine measures failed to consider the lack of paid sick days resulting in fear of unemployment,[63,217,223–225] crowded housing and apartments, and associated lack of greenspace and recreational activities.[226–230] Multigenerational homes[97] and festivities are inherent features of South Asian cultures which were sensationalized by media and the government, fueling discrimination and hate activity across Canada.[1,231] Canadian police reported an increase in hate crimes for three straight years, with sharp increases in hate crimes specific to South Asians from 2019 to 2021 (+47% for 2019-2020[218] and +21% for 2020-2021[232]). These numbers are not wholly reflective of South Asian victimization, as self-reports of hate incidents increased by over 300% in 2021.[233,234] Hate-motivated crimes and incidents resultantly induce greater depressive and other mental health symptoms among this community.[130,220,235] Additionally, there was an apparent lack of culturally sensitive health resources and services, and public health measure recommendations, tailored to South Asians during the pandemic, leading to increased vaccine hesitancy and lower vaccine uptake.[86,154] Barriers in accessing health-promoting programs already facing this community continued to play a role, including language barriers, low awareness of programs, transportation, and lack of available infrastructure.[220,223,235,236] The reviewed literature points to a critical need for comparative studies and policy analyses examining the effect of structural racism during COVID-19 on South Asian health outcomes and access to and use of health services.

CRT also recognizes the importance of cultural safety over cultural competency in healthcare practices to address health disparities for South Asians in high-income countries. One of the key cultural barriers impacting South Asian health outcomes is stigma around mental health. This stigma is prevalent among South Asians and can be tied back to health literacy and awareness, as well as communication barriers facing the community. South Asians frequent family doctors and services for mental health issues, including psychiatrists, far less than White individuals.[92,127] Additionally, evidence notes that South Asians are more likely to believe in supernatural causes about their experiences with mental health.[127] Increased stigma is associated with worse mental health among South Asians compared to White individuals,[130] whereas viewing mental illness in a more positive light increased the willingness for all racial groups including South Asians in seeking formal or informal mental health supports.[131] Notably, during the COVID-19 pandemic, South Asians in Quebec were amongst the highly exposed ethno-cultural groups, and resultantly, faced increased levels of discrimination and poor mental health.[130] The Centre for Addictions and Mental Health (CAMH) and Mental Health Commission of Canada (MHCC), alongside numerous South Asian community partners and members, recently published research on the culturally adapted cognitive behavioural therapy (CaCBT) to support delivering this evidence-based treatment to South Asians across Canada who experience anxiety and depression.[237] This research highlights the need to move towards tailored approaches to mental health treatments and services for South Asians. Comparative literature from the examined countries that reviews sexual health outcomes among South Asians is also minimal. However, few comparative and non-comparative studies consistently comment on the increased stigma associated with talking about sexual health and disease in this community.[82,137,238] External barriers to cancer screening for women included previous negative experiences within healthcare and having a male HCP.[82,137] Culture-based misconceptions and misunderstandings of risk factors for cancer (e.g., sexual activity), mental health issues, hypertension, and other cardiometabolic diseases, heavily influence the uptake of preventative measures and screening programmes, as well as acceptability of, and adherence to, therapeutic services. For instance, one reviewed study highlighted that South Asian women in Scotland were ill-informed about cervical cancer as they misidentified the origin of this cancer, opted out of necessary pap smears, and commented on the associated emotional and cultural barriers with sexual health check-ups / screening.[137] Despite the underlying cultural differences, CRT emphasizes the importance of updating communication methods and materials to better serve this population, as well as streamlining procedures and care pathways to ease access for South Asians entering and utilizing the healthcare system. Far too often, medical education and policies scapegoat cultural barriers for poor health outcomes instead of structural racism. The onus is on healthcare systems, including HCPs, clinical and non-clinical staff, and upstream policies, to better translate important health information to South Asian communities using culturally-adaptive and informed methods. Establishing sustainable community partnerships has emerged as an effective approach for disseminating culturally appropriate health communication materials, which improved health literacy and increased the uptake of COVID-19 screening and vaccination programmes among South Asians.[239] The potential benefits of such partnerships extend beyond COVID-19 with implications for improving health outcomes for a variety diseases, showing promise as a strategy for advancing health equity and reducing health disparities among diverse populations. Furthermore, Todic et al.[240] provide a sound framework for limiting or avoiding cultural explanations as the sole reason for poor health outcomes, as this can obscure the impact of structural and systemic racism and their downstream effects. They discuss that while cultural competency is important, it is not sufficient to achieve health equity.[240] Following this, spotlighting cultural competency as an accomplishment or asset in medical education implies the capacity of an individual to acquire, possess, and apply knowledge about cultural groups. However, understanding the nuanced and multifaceted nature of culture and ethnicity and how they interact with our worldviews is complex. To truly understand these complexities, HCPs and healthcare planners must consider whether patients feel safe in care environments and whether providers are fostering a culturally-safe space for patients and their family members to openly communicate, ask questions about their health and conditions, and access critical care. In understanding CRT, there is an understanding of the need for a comprehensive approach that improves cultural safety in healthcare while also recognizing the weight of broader societal and structural factors that contribute to health disparities. Accounting for these factors is crucial in achieving health equity for South Asians and other marginalized groups in White-majority countries.

CRT recognizes that racism is deeply embedded in our legal and social structures, institutions, and healthcare systems. Accordingly, the driving factors of South Asian health disparities move beyond biological differences, acculturation, or individual-level factors, towards larger systemic and institutional factors that perpetuate inequalities. The existing biomedical thresholds for BMI, hypertension, pregnancy-related outcomes, and infant health risks for instance, often use race or ethnicity-based biological differences to explain current health disparities among South Asians. However, CRT emphasizes that structural and systemic factors such as socioeconomic hardships, neighborhood deprivation, access to education and employment, food insecurity, acculturative stress,[1,64,208] and implicit and explicit racism and bias from HCPs and non-clinical staff are also critical factors that contribute to these disparities. While changing biomedical thresholds as well as screening, referral, and treatment guidelines and practices may help to address inequities, CRT stresses that addressing the underlying systemic factors that perpetuate inequalities is necessary to truly address health disparities among South Asians. Efforts may involve improving access to linguistically and culturally informed healthcare services, addressing implicit and explicit bias within healthcare systems, employing South Asian healthcare and administrative staff, including patients, especially first generation or immigrant South Asians, in decision-making processes about disease management and treatment plans, and advocating for policies and programs that minimize the downstream impacts of the social determinants of health. By applying CRT into health services research and healthcare practice, we can better understand and address the complex and multifactorial nature of these disparities and work towards creating a more equitable healthcare system.

Methodological Considerations

The present review raises several important methodological concerns regarding the reviewed literature. Firstly, the study designs utilized in the reviewed literature were limited in their variability across different countries and years, with cross-sectional and cohort studies accounting for a significant proportion (85%) of the included studies. The nature of cross-sectional studies limited the ability to establish temporal inferences between South Asian ethnicity and healthcare access, use, and outcomes. Similarly, cohort and other observational studies were often constrained by shorter follow-up periods, thereby limiting their capacity to establish causality between ethnicity and healthcare access, use, and outcomes. The review also did not capture mixed methods studies, and only five qualitative studies met the inclusion criteria from the U.K. and Canada. While the limited number of qualitative findings is unsurprising given that studies of a similar nature typically only examine South Asians or grouped ethnic minorities, the need for comparative qualitative studies is well-demonstrated as they complement quantitative findings and offer a more nuanced understanding of the individual, organizational, and structural racism that South Asians experience in healthcare. To overcome these limitations, future studies should consider adopting diverse study designs. This includes mixed methods studies and longitudinal studies with sufficient follow-up periods that can both establish life-course trends in healthcare access, use, and outcomes, for South Asians, as well as comparative qualitative research that capture the experiences of South Asians to identify gaps and opportunities in the care pathway for physical and mental health issues.

Second, there are concerns about the generalizability of findings from the reviewed studies. While diverse sampling methods were employed, including purposive, random, and representative sampling, many studies that linked national and regional datasets were prone to missing data. Despite the large sample sizes, the disproportional population representation of South Asians compared to White individuals in samples are concerning; this is largely evident in cohort and administrative data linkage studies. Such imbalances can lead to underpowered analyses and results that require cautious interpretation. The inclusion of studies with White comparator populations helped to better contextualize the impact of race and racism within healthcare, however, future studies should continue to specify that these reference populations are non-Hispanic or non-Latino as White Hispanic and/or Latino populations have unique experiences in healthcare systems. On this note, over one-third of studies did not include measures that capture the heterogeneity of South Asian subgroups (n=30, 34%), while 30% provided no definition or description of the term ‘South Asian’ in any part of the study. The importance of delineating subgroups within this body of work is imperative, however this may not have been possible due to limited participants, resorting to combining subgroups. More efforts should be taken to recruit representative samples of South Asian subgroups, or report on outcomes specific to included subgroups, limiting the overgeneralization of findings to other South Asians. Moreover, participation from South Asians with limited English language proficiency was limited as most studies offered surveys, questionnaires, and interviews only in English, which increased non-response bias among this important yet excluded group. White individuals and South Asians included in samples were also more likely to be educated, have higher individual or household income, live in less deprived neighborhoods, and have better overall health, which skews the sample and results toward the null. A more diverse sample in terms of socioeconomic backgrounds, employment, income, geographical location, and nationality/immigration status, may better reflect the state of health and healthcare access for the broader South Asian population in the respective geographic regions and countries. Another critical consideration is that in most studies, even national samples, a large proportion of included participants were from urbanized areas, raising concerns about generalizability to the broader South Asian population, particularly those in rural areas. There are also no transnational studies comparing the healthcare access, use, and outcomes, of South Asians and White individuals. Addressing these sampling shortcomings through improved strategies that account for the heterogeneity of South Asian subgroups, inclusive recruitment of diverse participants, and broader geographical coverage can enhance the applicability of future research findings to national and transnational South Asian populations.

Third, the measures or proxies used in healthcare-related studies require careful consideration. This review indicates a gap in the literature that measures, quantifies, or comments on, individual, organizational, and structural racism in healthcare. The use of validated, objective measures in such studies will be difficult as these experiences are incredibly personable, and perceptions/definitions of racism in any form, are dependent on the worldviews of the researchers, HCPs, and patients/family members. Furthermore, population- and systems-level studies are needed to contextualize the impact of organizational and structural racism on access to and use of health services, as well as on health outcomes. For studies investigating individual racism in healthcare, or the related social determinants of health, employing a variety of measures that assess racism and discrimination ensures the accuracy and reliability of findings. Only one study, qualitative in nature, directly highlighted that South Asian women and other racialized minority women in Scotland reported racism, ignorance, and feeling shamed, with relation to clinical and non-clinical staff, as well as a lack of representation in HCPs when seeking cervical cancer screening.[82] Still, the interview guide did not explicitly ask about experiences with racism or discrimination—merely probed for their experience with participating in screening, and language and other cultural factors that affected their experience or acted as barriers or facilitators in participation.[82] As noted in a systematic review examining Islamophobia and health, qualitative studies examining such measures make it difficult to reproduce findings.[241] In addition, studies generally did not consider including ethnocultural subclassifications (e.g., Gujarati, Punjabi, Tamil), as well as skin colour, religion, and religious or traditional attire, which are important variables to measure,[241] as they allow researchers, HCPs, and policymakers, to better understand gaps in healthcare training and delivery, inform healthcare policies, procedures, and access to social programs, as well as tailor educational materials, preventative programs, and interventions for South Asians and other marginalized communities. The inclusion of these measures can aid in answering unexplored questions, such as whether interactions with HCPs and clinical staff differ based on skin colour proximity to Whiteness, and if accents or traditional clothing impact these outcomes.[241] Furthermore, many of the measures used in the studies were highly reliant on participants' ability to recall their medical history, as has traditionally been done in healthcare studies when objective clinical data is unavailable or missing. Use of these self-report measures however increases the likelihood of recall bias. For instance, participants may have difficulty recalling whether they were diagnosed with hypertension by a physician, their adherence to prescribed medication, or their visits to specialist clinics for follow-up appointments. To mitigate this, greater efforts should be dedicated to collecting, storing, cleaning, and linking clinical-based data in place of self-reports. Self-reports of ethnicity and race are preferrable over using name-ethnicity classification software or genetic ancestry testing,[9] though misclassification remains a possibility with self-reports especially when participants are offered a limited set of options in a survey/questionnaire to select from. This is more likely to occur with participants from the broader South Asian diaspora (i.e., Indo-Caribbean, Indo-Fijian, Indo-African, and other mixed people with South Asian ancestry) who have complex ethnocultural backgrounds. Future studies should therefore limit their use of proxy measures such as neighborhood deprivation and individual or household income/SES (i.e., social determinants of health),[208] include quantitative and qualitative measures of racism and/or racial discrimination in healthcare for South Asians, and analyze clinical administrative data over self-reports when applicable.

Limitations & Strengths

The present review has certain limitations or considerations. Firstly, there were inconsistencies in the racial and ethnic descriptions of South Asians across studies. A large proportion of studies failed to define or describe which South Asian subgroups were studied, while others simply did not define which subgroups were considered South Asian anywhere in the study. Though this makes it challenging to compare results across all outcomes thereby hindering the development of targeted health policies and interventions, we must consider that race is a social construct, and that race and ethnicity classifications are context specific (e.g., comparing South Asians will be difficult because the constructs will be different in the U.K. vs. Canada). Secondly, while all studies were rated as moderate or high-quality using the MMAT critical appraisal tool, the tool did not fully capture the limitations of the reviewed literature. Although most quantitative studies lost points on the MMAT due to incomplete data, broader limitations, such as a lack of South Asian heterogeneity in the sample of analysis or data collection methods, were not fully captured. Additionally, the response options of the tool (yes, no, or can't tell/unavailable) may not have been the most effective rating system. Instead, a Likert-scale type rating for each question may have been more beneficial in assessing the quality of the included studies. Third, the research question did not account for ethnicity, an important factor in the context of the reviewed literature, and that based on the methods used in this review and those used in the included studies, causality on inequities in healthcare access, use, and outcomes, cannot be attributed to race. A more adept question may have been "How does race and/or ethnicity impact the health, health care, and access to health services, of South Asians compared to White populations in Canada, the U.K., the U.S.A., Australia, and New Zealand?". Furthermore, this study was unable to capture grey literature including the mounting media reports and personal counts on events of racism impacting healthcare access, use, and outcomes, across all countries. Future studies should include such literature and an analysis of health policies, especially following the COVID-19 pandemic, to delineate the state of healthcare and access to health for South Asians to improve the robustness of this research area.

Despite these points, this study presented several strengths. Firstly, the study leveraged a variety of relevant academic databases, in addition to Google Scholar to supplement the academic searches. The search terms were optimized and consisted of several synonyms and analogous terms for each 'theme' to ensure all relevant studies were captured. Secondly, this study was characterized by a breadth of reviewed literature spanning the last 10 years, including all study designs and outcomes concerning physical health and mental health, as well as healthcare access and use. Furthermore, this review examined studies with White comparator populations, which has not been extensively conducted in this field of research. As a result, this study was able to provide a comprehensive understanding of the healthcare pathway for South Asians in four populous White-majority countries, along with a review of the gaps in this research area. Another key strength is the conceptualization and continuous guidance of the study by diverse, racialized healthcare and social science researchers, who brought their expertise and identified the need for this study. This ensured that the study was rooted in a sound conceptual framework, allowing for a more rigorous and grounded analysis of the data.

Recommended Areas of Research

Based on the above findings and discussion points, there are several research implications for promoting health equity in this population.

1. Increased and improved collection of disaggregated health data on South Asians and other underrepresented racial and ethnic groups.

   The need for increased efforts to routinely collect disaggregated health and sociodemographic data from racialized and ethnic minorities in all the examined countries has been well-established. National health surveys and databases lack the proportional representation of South Asians and other equity-seeking groups, necessitating the need for oversampling these populations. Currently, the Canadian Community Health Survey (CCHS) offers the best option for analyzing health disparities in Canada.[195] Protocols for collecting race- and ethnicity-based data should be developed in adherence to recommended guidelines,[74,191] as well as in consultation with community members and leaders to ensure data sovereignty and cultural sensitivity in data collection, use, and interpretation.

2. More comparative studies that take a CRT approach/lens to examine the impact of racism and discrimination on South Asian healthcare access, utilization, and outcomes, are needed across all White-majority populous countries. Population-level studies should be prioritized as they are better equipped to identify gaps in the healthcare system and opportunities to circumvent systemic racial and ethnic health disparities. Studies should also consider incorporating alternative methods of knowledge dissemination.

   Future research should address gaps in knowledge on all outcomes for children and youth under 16 years of age, and mental health and sexual / reproductive health outcomes for all ages, as well as longitudinal and qualitative studies on all outcomes. Comparative research on all outcomes and ages in Australia and New Zealand are long overdue, while Canada and the U.S.A. need to better account for their considerably large and rapidly growing South Asian population in their research efforts. Although the U.K. currently provides the most literature in this area among the countries examined, there is still much room for improvement in the types of studies, outcomes, and age ranges investigated. This study also identified a key area of research that is currently lacking and prompts investigation is the differing experiences of South Asians and White individuals in healthcare settings with regards to their interactions with and treatment by healthcare providers and clinical staff. Studies focussing on the gaps in the care pathway leading to the diagnosis of chronic diseases such as diabetes, hypertension, and cancer, and comparisons with post-diagnosis gaps in the care pathway are also immensely valuable in identifying problematic areas in our healthcare systems. Including personal narratives and anecdotal evidence from South Asians in future comparative research focused on inequities in accessing care, especially with systematic reviews, is also recommended.

3. The development of measures to effectively capture individual, organizational, and structural racism, and discrimination in healthcare settings among South Asians can greatly benefit this population.

   The literature reviewed reveals that social determinants of health such as employment, SES, and neighborhood deprivation, have been used as proxies for structural racism and discrimination. However, use of these indirect measures highlight a noticeable gap in this field of research. Recent publications have identified several measures that can evaluate racism at different levels of a healthcare system. For instance, racism at the individual-level can be measured by comparing the time spent by healthcare providers (HCPs) with ethnic minority patients and White patients, the quality of this time, including conversation pace and tone, body language, knowledge and resource sharing, referral practices, decision-making processes including patient involvement, as well as patient trust and feelings of dismissal.[242] For a more direct approach, asking patients about racism in healthcare settings or accessing these settings and services with questions tailored for South Asians may also be valuable (e.g., assumptions about not speaking English, poor treatment due to accents, etc.).[208] The Implicit Association Test (IAT)[243] can assess organizational-level racism by identifying implicit bias among HCPs and other staff working in healthcare settings.[242] Moreover, a combination of variables can be used to measure higher-level racism present in the structure and functioning of our healthcare systems and government institutions. These measures include the availability and allocation of healthcare services, resources, and treatments, HCP education/training,[206,242,244] and the political alignment or conflict of interest among HCPs, healthcare service organizations, and current political parties in power. It is crucial adapt these measures for use among South Asians, alongside use of pre-existing SDOH measures, to better understand the effects of racism on their healthcare outcomes and issues with access to and experiences with using healthcare services. Incorporating qualitative components as part of these measures has also shown to provide deeper insights into patient-reported experiences and HCP-reported perspectives of racism and discrimination within healthcare systems.[38,241,242] Furthermore, objective measures such as biomarkers and clinical administrative data may offer a more reliable approach than self-reported measures. The consistent use of quantitative and qualitative measures to assess racism and discrimination vastly improves the robustness of this field of research and its downstream impacts on health policies in improving healthcare outcomes, and access to and experiences with health services, for South Asians and other minority groups.

4. Studies should also employ rigorous, representative sampling methods to increase the generalizability and applicability of findings in practice.

   This review revealed the need for future studies to recruit sufficient South Asians that are nearly equivalent in sample size of the White comparator population, as well as an overall diversified sample in terms of socioeconomic background, education, employment, income, neighborhood deprivation, and nationality/immigration and generation status. South Asians should also be presented and analyzed in separate categories from other Asian subgroups (e.g., Chinese, Japanese, Vietnamese) in accordance with emerging health research guidelines from JAMA,[74] CMAJ,[192] and CIHI,[191] as each of these subgroups distinctly experience the impacts of the intersections of race, ethnicity, gender, and SES, on healthcare outcomes, access, and use. Future studies should employ specialized efforts to recruit underrepresented subgroups such as Sri Lankans, Bhutanese, and Nepalese, who are generally absent from the literature. The review also emphasizes the importance of making concerted efforts to recruit and study South Asians with limited English language proficiency as they have unique experiences in healthcare systems. To address this issue, offering surveys in multiple South Asian languages can help bridge the gap, along with employing research assistants that can speak these languages to conduct interviews or administer English surveys, or hiring translators or interpreters, who can facilitate accurate data collection and reporting. These efforts can lead to the development of targeted health policies and interventions that can address the unique healthcare needs and challenges of various South Asian communities.

5. Self-reported race and ethnicity should be prioritized over those assigned by an observer or name-classification algorithms and software.

   As the international medical community is slowly moving to adopt a racial constructivism approach, race and ethnicity should be self-reported, especially over ethnicities that are assigned by researchers or software.[9] Several reviewed studies employed the Nam Pehchan surname recognition software, which has shown considerable variation in accurately classifying South Asian names, with a positive predictive value range of 63 to 96%.[107,245,246] These algorithms fail to account for the nuances in an individual's ethnic composition and living experiences, such as cultural identity versus ethnic, genetic, and geographical, ancestry, with greater implications among individuals of the broader South Asian diaspora (i.e., Indo-Fijians, Indo-Caribbeans, etc.).[9]

CONCLUSION:

This systematic review reports on the considerable gap in comparative research on the impact of race and racism on healthcare access, use, and outcomes among South Asians and White populations in Western countries. Findings indicate significant inequities in physical health outcomes and healthcare access for South Asians, revealing gaps in the care continuum. Despite the last decade of research, there has been no overall increase in comparative studies with White populations; Canada, the U.S.A., Australia, and New Zealand are lagging well-behind the U.K. The current research landscape lacks studies that discuss existing South Asian health inequities as resulting from structural racism. Moreover, comparative research on mental health, sexual/reproductive health, and all health outcomes for children and youth are also scarce. Future research should aim to address these gaps by employing rigorous, representative sampling and utilizing longitudinal, qualitative, and mixed methods designs. Population- and systems-level studies should be prioritized, as well as studies investigating healthcare provider-patient interactions and gaps in diagnostic and care pathways for chronic conditions. These findings underscore the significance of collecting race and ethnicity health data, addressing the underrepresentation of specific South Asian subgroups in research, and developing measures to capture implicit, covert, and overt racism in healthcare. The social determinants of health alone cannot fully explain the role of structural racism in explaining South Asian health inequities. Therefore, healthcare policies and programs must prioritize the development and implementation of culturally safe and accessible targeted interventions that empower South Asians to make informed decisions about their health. Healthcare researchers, providers, policymakers, and government institutions must recognize and address the various forms of racism prevalent in healthcare. Researchers should also consider incorporating other knowledge forms such as personal narratives and anecdotal evidence to complement scholarly works. By closing the research gap and implementing effective interventions, we can strive towards building a more equitable and just healthcare system that optimizes patient care experiences and outcomes for all marginalized populations, including South Asians and other equity-seeking groups.

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