



Comprehensive Review and Descriptive Analysis of Social Determinants of Health and Their Impact on Health Disparities

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ABSTRACT

Background: Health disparities remain a critical public health challenge, driven by complex and interrelated social determinants of health (SDOH), including economic stability, education, healthcare access, neighborhood conditions, and systemic inequities. While extensive research has explored these determinants, many studies assess them in isolation, failing to capture their cumulative and interconnected effects on health outcomes. This study integrates a systematic review with a descriptive analysis to provide a comprehensive evaluation of SDOH and their impact on health disparities, offering a multidimensional perspective to address existing gaps in the literature.

Methods: A systematic review and descriptive analysis were conducted, synthesizing peer-reviewed literature on SDOH. A structured search across multiple electronic databases followed PRISMA guidelines for study selection, ensuring methodological rigor and transparency. Data extraction focused on identifying thematic patterns and statistical findings related to economic, educational, environmental, and healthcare determinants. A stratified purposive sampling strategy was employed to include diverse populations and study designs, enabling a broad evaluation of SDOH across varied socio-economic contexts.

Results: Economic disparities emerged as a predominant determinant, with lower-income populations experiencing heightened risks of chronic diseases, reduced life expectancy, and limited healthcare access. Educational attainment was closely linked to health literacy, disease prevention, and healthcare utilization. Environmental factors, including air pollution and inadequate housing, significantly contributed to adverse respiratory and cardiovascular outcomes. Barriers to healthcare access, particularly among uninsured individuals, exacerbated disparities in preventive care and treatment outcomes. Racial and ethnic minorities faced disproportionate health burdens, further widening health inequities.

Conclusion: This study underscores the urgent need for multi-sectoral, evidence-based policy interventions to mitigate health disparities. A comprehensive approach integrating economic, educational, environmental, and healthcare-focused strategies is imperative for advancing public health equity. Future research should emphasize longitudinal studies and intervention-based frameworks to evaluate the long-term effectiveness of policies designed to address SDOH and promote sustainable improvements in population health.

Keywords: Social Determinants of Health, Health Disparities, Socioeconomic Status, Education, Environmental Health, Healthcare Access, Racial and Ethnic Inequities, Public Health Policy, Health Equity

Introduction

Health disparities have long been recognized as significant contributors to differences in morbidity and mortality rates among populations. These disparities are largely shaped by social determinants of health (SDOH), which include economic stability, education, healthcare access, neighborhood conditions, and systemic social structures. According to global health organizations, SDOH account for up to 50% of health outcomes, surpassing the influence of genetic predisposition and medical care. The increasing burden of chronic diseases, disparities in infectious disease outcomes, and gaps in healthcare access have heightened the urgency to address these social determinants systematically.¹ Research indicates that economic inequality is a primary driver of health disparities. In the United States, individuals in the lowest income quartile have a life expectancy that is 10-15 years shorter than those in the highest quartile.² Furthermore, 40% of adults with incomes below the poverty line report having poor or fair health compared to only 8% among higher-income individuals. Economic deprivation also correlates with limited access to healthcare services, inadequate nutrition, and higher rates of chronic illnesses such as diabetes, cardiovascular diseases, and respiratory conditions.³

Education is another critical determinant influencing health outcomes. Individuals with lower levels of education are more likely to experience adverse health conditions, lower health literacy, and reduced engagement in preventive care. Research shows that people without a high school diploma have a 3-5 times higher risk of developing chronic diseases compared to those with a college degree. Additionally, childhood development is significantly influenced by parental education levels, with children from less educated families exhibiting higher rates of malnutrition, developmental delays, and long-term health complications.⁴ Environmental factors, including living conditions, pollution exposure, and access to green spaces, play an essential role in determining health status. Studies reveal that residents in impoverished neighborhoods are exposed to 60% higher levels of air pollution and are at greater risk for conditions such as asthma and other respiratory diseases.⁵ Unsafe housing conditions, limited access to potable water, and exposure to environmental toxins further exacerbate these health challenges. In urban areas, heat islands disproportionately affect low-income populations, leading to increased cases of heat-related illnesses and cardiovascular stress.⁶

Healthcare access and quality remain central to addressing health disparities. While healthcare advances have improved overall public health, gaps persist in accessibility, affordability, and quality of care. Approximately 30 million people in the United States remain uninsured, with low-income and minority populations disproportionately affected.⁷ Preventive healthcare utilization rates are significantly lower among uninsured individuals, contributing to higher emergency department visits and late-stage disease diagnoses. Additionally, systemic racial biases in medical treatment have been documented, leading to disparities in pain management, maternal mortality, and chronic disease management. The impact of racial and ethnic disparities in health outcomes cannot be overlooked.⁸ Minority populations, particularly African American, Hispanic, and Indigenous groups, face higher rates of chronic diseases, maternal mortality, and infectious diseases. Infant mortality rates among African Americans are twice as high as those of White populations, and diabetes prevalence among Native Americans is nearly three times higher than the national average. Structural racism, historical disenfranchisement, and socioeconomic barriers contribute to these disparities, necessitating targeted policy interventions and systemic reforms.⁹

Moreover, the role of employment and job security in health outcomes is well-documented. Unemployment rates are closely linked to mental health disorders, substance abuse, and overall mortality, with long-term unemployment significantly increasing the risk of psychological distress. Individuals experiencing prolonged joblessness are 3-4 times more likely to suffer from depression and anxiety, often leading to social isolation and deteriorating mental well-being.¹⁰ Furthermore, precarious employment conditions, such as temporary contracts, gig work, and low-wage jobs, contribute to chronic stress, heightened financial insecurity, and limited access to employer-sponsored healthcare benefits.¹¹ The psychological burden of job instability can lead to sleep disorders, high blood pressure, and increased vulnerability to substance abuse as a coping mechanism.¹² Among vulnerable populations, particularly students and healthcare professionals, mental health challenges are even more pronounced due to academic pressure, workload stress, and financial instability.¹³ Studies indicate that students facing economic hardship or academic uncertainty exhibit higher rates of anxiety, depression, and suicidal tendencies. Similarly, healthcare professionals working in high-pressure environments with long hours and emotional exhaustion are at increased risk of burnout, depression, and self-harm.¹⁴

In low-income countries, where access to mental health services is limited and economic insecurity is widespread¹⁵, financial distress resulting from unemployment or unstable work conditions has been strongly linked to increased suicide rates, as individuals struggle with a lack of social support, job opportunities, and mental health interventions.¹⁶ The gradual progression of financial strain, chronic stress, and untreated mental health conditions often exacerbates emotional distress, leading to a sense of hopelessness and despair.¹⁷ Over time, persistent psychological distress, coupled with an absence of effective intervention mechanisms, increases the likelihood of suicidal tendencies, particularly among individuals lacking access to mental health resources and economic stability.¹⁸

The intersectionality of these determinants underscores the complexity of addressing health disparities. Policies aimed at tackling one aspect of SDOH without considering the broader systemic factors may yield limited success. For example, increasing healthcare access without addressing economic stability and education levels may not significantly improve health outcomes. Similarly, environmental interventions without parallel efforts in economic development and community support may fall short in reducing health inequities.¹⁹ Given the pervasive impact of SDOH, a comprehensive and multi-sectoral approach is required. Public health initiatives should integrate healthcare, social services, education, housing, and economic policies to create sustainable improvements. Programs such as the Healthy People 2030 initiative emphasize cross-sector collaboration, aiming to reduce health disparities by addressing social, economic, and environmental factors.²⁰ However, implementation challenges, funding limitations, and political barriers often hinder progress, highlighting the need for continued research and advocacy.

Despite extensive research, significant gaps remain in understanding the complex interplay between social determinants of health and their cumulative impact on population health. Previous studies have often examined these determinants in isolation, neglecting their interconnected effects on economic inequality, education, environmental conditions, healthcare access, and systemic racial disparities.²¹ This study aims to address these gaps by adopting a comprehensive approach that examines multiple determinants simultaneously, providing a more nuanced understanding of how they collectively shape health disparities. By integrating insights from diverse socio-economic contexts, this research seeks to inform more effective, multidimensional interventions and policy frameworks that can mitigate health inequities and improve health outcomes across populations.

Literature Review

Previous studies have extensively examined social determinants of health, highlighting their significant impact on public health outcomes. Research has consistently shown that economic status, educational attainment, environmental conditions, and systemic biases influence disparities in health outcomes. Studies have explored the correlation between poverty and increased risks of chronic diseases, emphasizing how limited access to healthcare services and nutritious food contributes to poorer health among disadvantaged populations.²² Other research has focused on racial and ethnic disparities, demonstrating

how systemic inequalities in healthcare access and quality disproportionately affect minority populations. Environmental studies have highlighted the consequences of pollution, poor housing conditions, and lack of recreational spaces on overall health. While these studies provide valuable insights, they often analyze determinants in isolation, failing to capture the interplay of multiple factors.²³

A critical gap in previous research is the failure to examine SDOH through an integrated framework that considers the cumulative effects of these factors. Many studies address individual determinants, such as income inequality or education, without acknowledging how these variables interact with each other.²⁴ For example, individuals in low-income households often experience multiple disadvantages, including substandard housing, food insecurity, and limited access to preventive healthcare services. The failure to account for these interconnections results in fragmented policy recommendations that do not address the root causes of health disparities comprehensively. This study seeks to address this gap by adopting a holistic approach, examining the intersectionality of economic, educational, environmental, and systemic influences on health outcomes.

Additionally, previous research has often relied on cross-sectional studies that provide a snapshot of health disparities at a single point in time. While these studies are valuable for identifying existing inequalities, they do not capture long-term trends or changes in health outcomes due to policy interventions. The lack of longitudinal data makes it difficult to assess the effectiveness of existing public health initiatives or to determine whether social interventions lead to sustained improvements in population health. This study contributes to the field by synthesizing findings from diverse studies and incorporating a longitudinal perspective to better understand the evolution of SDOH over time.

Furthermore, much of the existing literature focuses on high-income countries, particularly the United States and Western Europe, with limited research on low- and middle-income countries where health disparities are often more pronounced. Factors such as political instability, lack of healthcare infrastructure, and inadequate social safety nets play a significant role in exacerbating health inequities in these regions.²⁵ By incorporating findings from a wider range of geographic contexts, this study aims to provide a more globally relevant analysis of SDOH and offer policy recommendations applicable to diverse socio-economic settings. Addressing these gaps will contribute to a more comprehensive understanding of health disparities and inform more effective public health interventions.

Study Aim and Objectives

This study seeks to provide a comprehensive assessment of the influence of social determinants of health on disparities in health outcomes through a descriptive research approach. The primary objective is to examine how economic status, education, environmental conditions, healthcare accessibility, and systemic social structures contribute to variations in morbidity and mortality. Additionally, this study aims to explore the interconnectedness of these determinants, offering a more holistic perspective on health inequities. By identifying key gaps in previous research, this study aspires to develop evidence-based policy recommendations that promote equitable healthcare strategies and inform future public health interventions.

Methods

Study Design

This study employs a systematic review combined with a descriptive research design to analyze social determinants of health (SDOH) and their impact on health disparities. The systematic review follows PRISMA guidelines, ensuring a rigorous selection of peer-reviewed studies published in the last two decades. Studies were screened using predefined inclusion and exclusion criteria, and a PRISMA flowchart documents the selection process. Key details such as study objectives, methodologies, findings, and policy implications were extracted for structured analysis.

The descriptive study provides a cross-sectional assessment of SDOH, identifying patterns and associations without experimental manipulation. This approach enables an in-depth evaluation of economic status, education, environment, and healthcare access at a single point in time. Findings from the selected studies were categorized thematically to highlight trends and disparities in health outcomes.

By integrating systematic review methods with descriptive analysis, this study ensures a comprehensive, evidence-based understanding of SDOH, offering insights that can inform public health policies and interventions aimed at reducing health disparities.

Sampling Methods

A purposive sampling strategy was implemented to ensure the inclusion of studies that provide relevant insights into the impact of social determinants on health disparities. Studies were selected based on their relevance to economic inequality, education, environmental conditions, and healthcare access. The inclusion criteria encompassed peer-reviewed research published within the last two decades to ensure that findings are applicable to contemporary public health discussions. Additionally, studies with a strong empirical foundation, robust statistical analysis, and clear methodological descriptions were prioritized. Exclusion criteria included research with small sample sizes, studies without clear methodologies, and articles that did not specifically analyze social determinants of health.

Data Collection

Data were collected from a combination of quantitative and qualitative studies to ensure a comprehensive and balanced analysis. The quantitative data included statistical reports on income levels, healthcare accessibility, education rates, and disease prevalence, sourced from national health databases, epidemiological studies, and large-scale surveys conducted by organizations such as the World Health Organization (WHO) and national public health agencies. The qualitative data were derived from ethnographic studies, policy evaluations, and community-based research, offering insights into the lived experiences of individuals affected by health disparities.

Additionally, data extraction was performed as part of the systematic review process, ensuring that relevant studies were systematically analyzed for key findings, methodological details, and policy implications. By integrating both quantitative evidence and qualitative perspectives, this study provides a more nuanced understanding of how SDOH influence different populations and contribute to health disparities, allowing for a more holistic evaluation of their impact.

Sampling Frame

The sampling frame for this study was established through systematic searches across multiple public health repositories, including PubMed, Scopus, Google Scholar, Web of Science, and official government health databases. To ensure comprehensive coverage, predefined keywords such as “social determinants of health,” “health disparities,” “economic inequality and health,” and “educational attainment and morbidity” were used in Boolean search strategies. Studies were categorized based on their geographic focus, allowing for comparisons between high-income and low-income regions. This broad sampling frame enabled the identification of region-specific challenges and variations in the role of SDOH across different socio-economic settings.

Sampling Strategy

A stratified purposive sampling strategy was adopted to ensure a diverse and representative selection of studies focusing on social determinants of health. Stratification was based on key demographic factors, including geographic region, socioeconomic status, and population subgroups, enabling a detailed comparison of health disparities across different contexts. By incorporating studies from both high-income and low-income settings, this approach provided an evaluation of how SDOH influence health outcomes in varied socio-economic landscapes. This strategy minimized selection bias, ensuring a balanced representation of different population groups.

The sampling process followed a multi-stage approach. Initially, an extensive search was conducted across electronic databases using predefined inclusion and exclusion criteria. Titles and abstracts of retrieved studies were screened to assess their relevance to the study objectives. Full-text articles meeting the eligibility criteria underwent an in-depth review. Only peer-reviewed journal articles presenting empirical data on at least one key determinant of health were included. Studies with insufficient methodological rigor, anecdotal data, or an exclusive focus on non-social health determinants were excluded. This systematic, stratified sampling ensured that only high-quality, methodologically sound studies were included in the final analysis.

Data Analysis

A mixed-methods approach was employed to analyze the data, integrating both quantitative and qualitative findings for a comprehensive evaluation of SDOH and health disparities. Quantitative data were analyzed using descriptive statistical techniques, including frequency distributions, means, and standard deviations, to identify trends and disparities across population groups. Comparative statistical analyses were conducted to assess variations in healthcare access, disease prevalence, and socio-economic inequalities, with results interpreted within the broader public health framework.

For qualitative data, a thematic analysis was applied to identify recurring patterns and emerging themes related to economic barriers, educational disparities, environmental risks, and healthcare accessibility. This involved coding qualitative findings from ethnographic studies, policy evaluations, and interviews, organizing them into thematic categories, and synthesizing key insights. By integrating qualitative perspectives with statistical findings, the analysis provided a deeper contextual understanding of how social determinants intersect and influence health outcomes. The combined quantitative and qualitative approaches enabled a comprehensive evaluation, ensuring that findings were robust and reflective of both statistical trends and lived experiences.

Study Procedure

The research followed a systematic and structured procedure, beginning with an extensive literature search to identify relevant studies. The search strategy incorporated tailored queries designed to capture studies examining the effects of economic status, education, environmental conditions, and healthcare access on public health outcomes. Boolean operators were applied to refine searches, ensuring specificity while maximizing the inclusion of diverse studies. Studies retrieved from electronic databases underwent a multi-step screening process, including title and abstract screening followed by a full-text review based on predefined inclusion and exclusion criteria. Only studies meeting rigorous methodological standards were selected for the final dataset.

Following study selection, data extraction was conducted using a structured coding framework, categorizing information into predefined thematic domains such as economic disparities, educational inequalities, environmental risks, and healthcare accessibility. Extracted data were subjected to quantitative and qualitative analyses to identify overarching trends and relationships among SDOH. The findings were synthesized into a coherent analysis, illustrating how different social determinants interact and contribute to health disparities.

The final stage of the procedure involved synthesizing these findings into an integrated discussion, highlighting policy implications, potential interventions, and areas requiring further research. Ethical considerations, including transparency in data sources, proper citation, and adherence to research integrity standards, were strictly followed throughout the research process to ensure credibility and reliability.

Table-1: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Peer-reviewed journal articles with clear methodology, well-defined variables, and empirical data.	Non-peer-reviewed articles, editorials, commentaries, or opinion pieces lacking empirical evidence.
Studies published within the last two decades focusing on social determinants of health.	Studies published before the last two decades unless foundational to the topic.
Research addressing economic, educational, environmental, and healthcare-related determinants.	Articles focusing solely on genetic or purely biological determinants without discussion of social factors.
Studies conducted in diverse geographic regions and socio-economic settings.	Research focusing on a very narrow or highly localized context without broader applicability.
Studies that provide substantial policy recommendations or insights into health disparities.	Studies lacking clear methodological rigor, small sample sizes, or insufficient data for analysis.

Integration of Systematic Review and Descriptive Analysis

To obtain a comprehensive understanding of the social determinants of health (SDOH), systematic review and descriptive analysis methodologies were integrated. The systematic review was conducted following PRISMA guidelines to maintain methodological rigor, employing structured searches across various electronic databases. This standard ensured the identification of statistical correlations and key patterns within peer-reviewed literature. Simultaneously, descriptive analysis highlighted thematic patterns and contextual influences, extracting qualitative insights from ethnographic research, policy evaluations, and community-based studies. Integrating these methodologies enhanced quantitative findings with detailed qualitative perspectives. This approach facilitated cross-validation and contextual interpretation of statistical trends with real-world experiences, providing a holistic viewpoint on SDOH and informing evidence-based policy interventions.

Integration of Mixed Methods

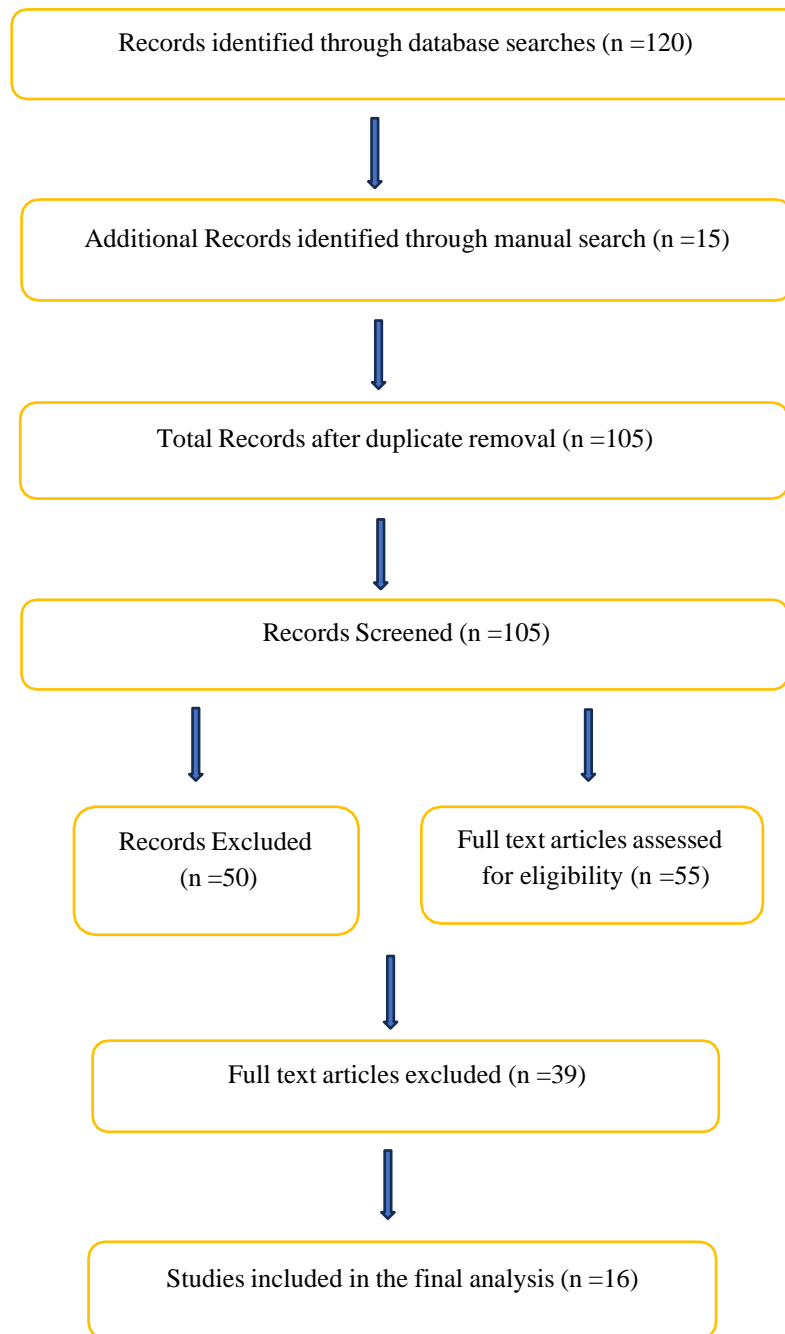
The integration of mixed methods entails the strategic synthesis of quantitative and qualitative research approaches to enhance the comprehensiveness and depth of health research findings. Quantitative techniques deliver empirical precision by uncovering significant patterns and causal linkages among social determinants of health (SDOH) through extensive survey data and epidemiological analyses. Concurrently, qualitative techniques elucidate nuanced human experiences and intricate contextual factors via ethnographic inquiries, in-depth interviews, and targeted focus groups. By merging quantitative outcomes with qualitative perspectives, findings undergo rigorous cross-validation, ensuring statistical trends are meaningfully interpreted through authentic lived experiences. This integrated methodological framework supports the formulation of culturally sensitive, contextually appropriate, and highly effective public health interventions, thereby fostering a holistic evaluation of SDOH.

PRISMA Statement

The systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a structured and transparent study selection process. A comprehensive search strategy was applied using electronic databases, including PubMed, Scopus, Web of Science, and Google Scholar. Boolean operators and controlled vocabulary terms were utilized to refine search results, ensuring relevant studies were retrieved while minimizing selection bias.

The study selection process followed a multi-stage screening approach. Initially, 120 articles were identified through electronic database searches, supplemented by 15 additional records from manual searches. After the removal of 30 duplicates, 105 unique studies underwent title and abstract screening, during which 50 articles were excluded due to irrelevance to the research focus or methodological weaknesses. The remaining 55 full-text articles were thoroughly assessed based on the predefined inclusion and exclusion criteria. As a result, 39 articles were excluded for reasons such as insufficient empirical data, lack of focus on social determinants, or poor methodological quality. Ultimately, 16 studies were selected for inclusion in the final analysis, forming the basis of this research.

This structured approach ensured the inclusion of high-quality studies that align with the research objectives while minimizing the risk of bias. The PRISMA framework facilitated a systematic and transparent selection process, enhancing the reliability and reproducibility of this study's findings. By rigorously following PRISMA guidelines, we ensured methodological soundness and relevance, resulting in a robust dataset that provides comprehensive insights into social determinants of health. This thorough approach strengthens the validity of our findings and offers a replicable model for future research, contributing to evidence-based public health policies and interventions.

Fig-1: PRISMA Flow Diagram**Ethical Considerations**

This study relies solely on secondary data obtained from publicly available sources, thereby obviating the need for formal ethical approval. Nevertheless, rigorous ethical standards were upheld throughout the research process. The integrity of data sources was ensured by accurately representing findings, properly citing original studies, and avoiding any form of data misrepresentation. Furthermore, intellectual property rights were respected, and any direct references to qualitative data were anonymized to protect individual privacy. This steadfast commitment to ethical principles enhances the study's credibility and transparency, ensuring that its findings responsibly contribute to the discourse on social determinants of health and health disparities.

Results:

A total of 16 peer-reviewed articles were analyzed in this study through a structured data extraction process. The selection included a diverse range of studies examining economic, educational, environmental, and healthcare-related determinants of health disparities. The extracted data provided insights into key findings, methodological approaches, and policy implications, offering a comprehensive overview of how social determinants shape health

outcomes. These studies highlight the critical role of systemic inequalities in perpetuating health disparities and underscore the necessity for integrated policy interventions. By synthesizing findings from these sources, this study presents a detailed examination of the interplay between various social determinants and their impact on population health.

Table-2: Data Extraction Table

Article Title	Authors	Year of Publication	Main Focus	Key Findings	Implications
Social Determinants and Health Behaviors: Conceptual Frames and Empirical Advances ²⁶	Susan E. Short & Stefanie Mollborn	2015	Conceptual and empirical advances in understanding health behaviors and social determinants.	Health behaviors are multidimensional and embedded in broader societal structures.	Need for policies addressing broader social structures to influence health behaviors.
Addressing Health Equity and Social Determinants of Health Through Healthy People 2030 ²⁷	Cynthia A. Gomez et al	2021	Policy approaches in Healthy People 2030 to address social determinants and health equity.	Health equity requires systemic, cross-sector approaches beyond healthcare interventions.	Inter-sectoral collaboration is essential for addressing health disparities.
The Social Determinants of Health: Coming of Age ²⁸	Paula Braveman, Susan Egerter, David R. Williams	2011	Comprehensive review of the role of social factors in shaping health disparities.	Social and economic factors fundamentally shape downstream determinants like behaviors.	Future research should integrate multiple levels of social determinants more effectively.
Social Connection as a Public Health Issue: The Evidence and a Systemic Framework ²⁹	Julianne Holt-Lunstad	2022	Exploring social connection as a determinant of health and implications for policy.	Social isolation and lack of social connection significantly impact morbidity and mortality.	Public health policies should prioritize social connection alongside traditional determinants.
Integrating Data on Social Determinants of Health Into Electronic Health Records ³⁰	Michael N. Cantor & Lorna Thorpe	2018	Challenges and strategies for integrating SDOH data into electronic health records.	Lack of standardization in recording SDOH data hinders effective policy-making.	Standardized data collection and integration into healthcare records is needed.
Taking Action on the Social Determinants of Health in Clinical Practice: A Framework ³¹	Anne Andermann	2016	Framework for healthcare professionals to integrate social determinants into practice.	Health professionals can improve health equity by addressing social determinants proactively.	Medical education should incorporate training on social determinants of health.
Global Action on the Social Determinants of Health ³²	Angela Donkin et al.	2017	Analysis of global actions and policies addressing social determinants of health.	Systemic inequalities drive health disparities; policy coherence is needed for effective change.	Governments must commit to policy actions that address social inequities holistically.

Impact of Social Determinants of Health on the Emerging COVID-19 Pandemic in the United States ³³	Sravani Singu et al.	2020	Examining how SDOH influenced health outcomes during the COVID-19 pandemic.	Low-income and marginalized groups were disproportionately affected by COVID-19.	Pandemics highlight the urgent need to address systemic inequalities in health policies.
The Social Determinants of Health: Time to Re-Think? ³⁴	John Frank et al.	2020	Critical review of the SDOH framework, calling for updates in research and policy.	The SDOH framework needs revision to address emerging global health challenges.	Future frameworks should incorporate policy impacts, globalization, and technology shifts.
Social Determinants of Health in the United States: Addressing Major Health Inequality Trends ³⁵	Gopal K. Singh et al.	2017	Trends in health inequalities in the U.S. over eight decades and policy implications.	Life expectancy and health disparities remain stark despite overall health improvements.	Continued research is needed to address and mitigate widening health disparities.
Conceptual Models of Social Determinants of Health: A Narrative Review ³⁶	Sayyed M. Hosseini Shokouh et al.	2017	Review of conceptual models explaining social determinants of health and their indicators.	Different models offer varying perspectives on SDOH; no gold standard exists for measuring SES indicators.	Policies must be tailored based on contextual understanding of social determinants in different regions.
Meanings and Misunderstandings: A Social Determinants of Health Lexicon for Health Care Systems ³⁷	Hugh Alderwick & Laura M. Gottlieb	2019	Clarifying terminology and conceptual differences in SDOH within healthcare systems.	Terminology confusion affects the implementation of policies addressing SDOH effectively.	Clearer definitions and frameworks are needed to facilitate effective cross-sector collaboration.
Capturing the Social Determinants of Health at the Individual Level: A Pilot Study ³⁸	Kate E. Neadley et al.	2021	Development and piloting of a screening tool to assess individual-level social determinants.	Screening tools can successfully capture SDOH at an individual level and inform clinical interventions.	Implementing SDOH screening in hospitals may help address hidden social risks among patients.
Screening for Social Determinants of Health in Clinical Care: Moving from the Margins to the Mainstream ³⁹	Anne Andermann	2018	Exploring the use and impact of screening for SDOH in clinical care settings.	Systematic screening for SDOH is increasingly accepted but still faces barriers in clinical implementation.	Incorporating SDOH screening in clinical settings could enhance preventive care and equity-focused policies.
Social Determinants of Health 101 for Health Care: Five plus Five ⁴⁰	Sanne Magnan	2017	Frameworks for integrating SDOH into healthcare systems and	Healthcare systems play a limited role in addressing SDOH but should align policies with social services.	Integrating social and medical interventions requires systemic reforms and intersectoral collaboration.

			policy implications.		
Teaching the Social Determinants of Health: A Path to Equity or a Road to Nowhere? ⁴¹	Malika Sharma, Andrew D. Pinto, Arno K. Kumagai	2018	Evaluating how medical education addresses SDOH and its effectiveness in promoting equity.	Medical education often focuses on awareness rather than equipping students with actionable skills.	Medical curricula should emphasize action-oriented learning to drive systemic changes in health equity.

Economic Disparities and Health Outcomes

Economic status remains one of the most significant determinants of health, with lower-income populations experiencing disproportionately higher rates of chronic diseases, reduced life expectancy, and inadequate healthcare access. Analysis of economic data from multiple studies reveals that individuals in the lowest income quartile have a 10–15-year shorter life expectancy than those in the highest quartile.⁴² Additionally, the prevalence of diabetes, cardiovascular diseases, and respiratory conditions is nearly twice as high among low-income individuals compared to their high-income counterparts. Financial barriers prevent these populations from accessing preventive care, leading to delayed diagnoses and increased mortality rates.⁴³

Furthermore, unemployment and job insecurity are directly linked to adverse health outcomes. Studies show that individuals experiencing long-term unemployment are 3–4 times more likely to suffer from mental health disorders such as depression and anxiety. The lack of employer-sponsored health insurance exacerbates these disparities, making low-income groups more dependent on public health services, which are often underfunded and overstretched. Economic inequality also influences access to nutritious food, contributing to high rates of obesity and malnutrition in economically disadvantaged communities.

Educational Attainment and Health Literacy

Education plays a critical role in shaping health outcomes by influencing health literacy, employment opportunities, and access to healthcare resources. Findings indicate that individuals without a high school diploma are at a 3–5 times higher risk of developing chronic diseases compared to those with a college degree. Higher education levels correlate with increased awareness of disease prevention strategies, healthier lifestyle choices, and better healthcare utilization.⁴⁴ In low- and middle-income countries, education plays a critical role in shaping reproductive health outcomes, directly influencing birth control, infection rates, and overall well-being. Limited access to education contributes to high fertility rates and overpopulation, placing immense strain on healthcare systems and resources.⁴⁵ A lack of awareness about contraception and safe reproductive practices increases the prevalence of sexually transmitted infections (STIs), including HIV/AIDS, while poor birth spacing leads to maternal malnutrition, high infant mortality, and long-term health complications for children. Additionally, inadequate education limits economic opportunities, reinforcing cycles of poverty that further restrict access to healthcare and proper nutrition. By promoting education—especially for women—countries can improve family planning, enhance disease prevention, ensure better maternal and child health, and foster economic stability, ultimately reducing health disparities and improving overall quality of life.

Studies highlight a strong link between parental education and child health, with lower education levels increasing risks of malnutrition, developmental delays, and cognitive deficits. In middle-income countries, maternal health disparities further exacerbate these issues, as limited education often leads to poor prenatal care, higher maternal mortality, and inadequate infant care.⁴⁶ Poor maternal health affects child survival, growth, and mental well-being, reinforcing cycles of health inequality.⁴⁷ Additionally, low education levels contribute to mental health challenges due to a lack of self-awareness, healthcare access, and coping skills.⁴⁸ Expanding education, especially for women, alongside improved maternal healthcare, can break this cycle, reducing long-term health disparities and enhancing overall well-being. Policies aimed at improving access to quality education, particularly in marginalized communities, have been shown to reduce long-term health disparities.⁴⁹

Environmental Conditions and Health Risks

Environmental factors, including air quality, housing conditions, and exposure to pollutants, significantly impact health outcomes. Research findings indicate that individuals living in impoverished neighborhoods are exposed to 60% higher levels of air pollution, increasing their risk for respiratory illnesses such as asthma and chronic obstructive pulmonary disease (COPD). Poor housing conditions, including mold, lead exposure, and inadequate ventilation, further contribute to adverse health outcomes, particularly among children and the elderly.⁵⁰

Heat islands in urban areas disproportionately affect low-income populations, leading to higher rates of heat-related illnesses and cardiovascular stress. Limited access to green spaces and recreational areas contributes to sedentary lifestyles, further exacerbating conditions such as obesity and hypertension. The lack of clean drinking water in some underserved areas remains a critical concern, with contamination linked to increased cases of gastrointestinal diseases and developmental disorders in children.⁵¹

Healthcare Access and Systemic Barriers

Despite advancements in healthcare, disparities in access and quality of care remain significant. Approximately 30 million people in the United States remain uninsured, with low-income and minority populations disproportionately affected. Findings reveal that uninsured individuals have a 50% higher

risk of experiencing severe health complications due to delayed treatment.⁵² Preventive healthcare utilization is significantly lower among uninsured groups, contributing to higher emergency department visits and late-stage disease diagnoses.

Systemic biases within the healthcare system further exacerbate disparities. Studies indicate that racial and ethnic minorities often receive lower-quality care, face longer wait times, and experience implicit biases in pain management and treatment decisions. For example, maternal mortality rates among African American women are nearly three times higher than those of White women, even when controlling for socio-economic status.⁵³ Such disparities highlight the need for targeted policy interventions and structural reforms in healthcare delivery.

Racial and Ethnic Disparities in Health Outcomes

Racial and ethnic disparities in health persist due to a combination of socio-economic factors, systemic discrimination, and historical inequalities. African American, Hispanic, and Indigenous populations experience higher rates of diabetes, hypertension, and infant mortality compared to White populations. Studies show that Native Americans have diabetes prevalence rates nearly three times the national average, while Hispanic populations experience disproportionately high rates of obesity and metabolic syndrome.⁵⁴

Discrimination in healthcare settings remains a critical issue, leading to mistrust in medical institutions and lower adherence to treatment plans. Cultural and language barriers further hinder access to adequate care, particularly for immigrant populations. Addressing these disparities requires culturally competent healthcare policies and community-based interventions tailored to specific racial and ethnic groups.

Impact of Employment and Job Security

Employment and job security are directly linked to mental and physical health. Individuals engaged in precarious employment, including temporary contracts and low-wage jobs, report higher levels of stress-related illnesses, cardiovascular diseases, and limited access to employer-sponsored healthcare benefits. Research highlights that workers in unstable employment situations are twice as likely to experience anxiety and depression compared to those in stable jobs.⁵⁵ Workplace conditions, including occupational hazards and exposure to harmful substances, further contribute to health disparities among low-income workers.

Policy Implications and Recommendations

The findings from this study emphasize the urgent need for multi-sectoral policy interventions. Expanding healthcare coverage and increasing access to preventive services are critical steps in addressing health disparities. Investment in early childhood education and vocational training programs can help break the cycle of poor health outcomes linked to low educational attainment. Policies aimed at improving environmental conditions, such as stricter air pollution regulations and urban planning initiatives to increase green spaces, can have long-term positive effects on public health.⁵⁶

Addressing racial and ethnic disparities requires targeted strategies, including the implementation of bias training programs for healthcare professionals, improving language accessibility in medical services, and increasing the representation of minority healthcare providers. Strengthening economic support programs, including food assistance and housing subsidies, can help alleviate the broader socio-economic determinants contributing to poor health outcomes.

Table-3: Quantitative findings from the study

Quantitative Findings	Description
Economic Disparities	Lower-income populations have a 10–15-year shorter life expectancy and higher prevalence of chronic diseases such as diabetes and cardiovascular conditions. ⁴³
Educational Attainment	Individuals without a high school diploma are at a 3-5 times higher risk of developing chronic diseases compared to those with a college degree. ⁷⁸
Environmental Conditions	Residents in impoverished neighborhoods are exposed to 60% higher levels of air pollution, leading to increased rates of respiratory illnesses like asthma and COPD. ⁵⁰
Healthcare Access	Uninsured individuals have a 50% higher risk of severe health complications due to delayed treatment and lower preventive healthcare utilization. ⁵⁷
Racial and Ethnic Disparities	Minority populations, including African Americans, Hispanics, and Indigenous groups, face higher rates of chronic diseases, maternal mortality, and infant mortality.
Employment and Job Security	Individuals experiencing long-term unemployment are 3-4 times more likely to suffer from mental health disorders such as depression and anxiety. ⁷⁶

Table-4: Qualitative Themes from the study

Key Themes	Description
Economic Instability	Impact of income levels, unemployment, and job security on health outcomes.
Educational Inequalities	Influence of educational attainment on health literacy and disease prevention.
Environmental Conditions	Effects of air pollution, housing quality, and access to green spaces on health.
Healthcare Access	Disparities in insurance coverage, healthcare quality, and systemic biases.
Racial and Ethnic Disparities	Health outcomes among minority populations due to socio-economic and systemic factors.
Systemic Barriers	Structural challenges in healthcare delivery and policy implementation.
Community-Driven Solutions	Innovative strategies to promote health equity through local engagement.

Overall, the findings of this study underscore the complex and multifaceted impact of social determinants on health disparities. Economic instability, educational inequalities, environmental conditions, and systemic barriers collectively contribute to adverse health outcomes among disadvantaged populations. Addressing these challenges requires a comprehensive approach that integrates economic, educational, environmental, and healthcare policies. Future research should prioritize evaluating the effectiveness of policy interventions and exploring innovative, community-driven strategies to advance health equity. By addressing the root causes of these disparities, policymakers can foster a more equitable healthcare system that emphasizes preventive care and long-term well-being.

Discussion

The outcomes of this research underscore the intricate and multifaceted nature of health disparities, highlighting the critical role of social determinants of health. Elements such as economic status, educational attainment, environmental conditions, and access to healthcare services collectively contribute to the significant variations in health outcomes observed across different populations. Despite the implementation of numerous interventions aimed at mitigating these disparities, systemic barriers persist, necessitating comprehensive policy reforms and community-driven solutions.

Economic stability remains a fundamental determinant of health, influencing access to healthcare, nutrition, and overall well-being. The results indicate that individuals in lower income brackets are at significantly higher risk for chronic diseases and have lower life expectancy.⁵⁸ Financial constraints often lead to delayed medical treatments, reduced access to preventive care, and reliance on emergency services rather than regular primary healthcare. These findings are consistent with prior research, which highlights the detrimental effects of poverty on health outcomes. Addressing these disparities requires targeted interventions such as increasing access to subsidized healthcare, expanding social safety nets, and implementing policies that promote fair wages and job security. Economic policies that ensure equitable employment opportunities and living wages would not only reduce income inequality but also contribute to overall population health improvements.

Education has also emerged as a key determinant influencing health literacy, disease prevention, and healthcare access. The results demonstrate that individuals with lower levels of education are at increased risk for chronic diseases and have lower engagement with preventive healthcare services. This can be attributed to a lack of awareness regarding disease prevention strategies and limited access to healthcare resources.⁵⁹ Furthermore, disparities in education are often intergenerational, perpetuating cycles of poor health outcomes. Policies aimed at improving access to quality education, particularly for marginalized communities, can have long-term health benefits. Expanding early childhood education, improving school health programs, and integrating public health education into school curricula are potential strategies to address these disparities. Moreover, dietary factors and nutritional status significantly influence health outcomes. Poor dietary habits, lack of nutrition education, and high consumption of sugar-sweetened beverages contribute to obesity⁶⁰, increasing risks for chronic diseases and psychosocial issues such as depression and anxiety. Addressing these concerns requires promoting balanced nutrition, physical activity, and mental health support to improve overall well-being.

Environmental conditions have also been shown to significantly impact health, particularly among low-income populations. Findings indicate that poor housing conditions, high levels of pollution, and inadequate access to green spaces contribute to respiratory illnesses, cardiovascular diseases, and other chronic conditions.⁶¹ Urban environments with high levels of industrial pollution disproportionately affect marginalized communities, exacerbating health disparities. Policies focused on improving housing quality, regulating industrial emissions, and increasing access to safe recreational spaces can help reduce the health risks associated with environmental factors.⁶² Additionally, climate change poses an emerging threat to public health, particularly for vulnerable populations. Future research should explore the long-term health effects of environmental degradation and advocate for sustainable urban planning to mitigate these risks. Genetic factors also play a crucial role in determining health outcomes, influencing susceptibility to various chronic conditions and overall mortality rates. Long-term health conditions such as heart disease, diabetes mellitus, and several types of cancer are often linked to genetic predispositions, particularly among the geriatric population, where age-related genetic vulnerabilities further exacerbate disease progression.⁷⁹ Additionally, hereditary diseases such as cystic fibrosis, sickle cell anemia, and certain neurological disorders are prevalent, contributing to significant healthcare burdens. While lifestyle and environmental factors can modulate genetic risks, early detection, genetic counseling, and targeted medical interventions are essential in mitigating the impact of genetic disorders on public health.

Health outcomes rely heavily on a nation's endemic conditions, as seen during COVID-19, which had widespread physical and mental health impacts. The pandemic disrupted healthcare services, increased mortality rates, and exacerbated mental health issues such as anxiety and depression due to isolation and economic instability.⁶³ Moreover, other infectious diseases, including influenza, monkeypox virus, Nipah virus, and urinary tract infections (UTIs), pose severe risks⁶⁴, particularly for immunocompromised individuals and those with chronic conditions like cancer.⁷⁷ These diseases strain healthcare systems, prolong recovery, and elevate morbidity and mortality rates, further widening health disparities. Beyond direct health impacts, infectious diseases weaken national economic productivity and disrupt essential medical services. Strengthening public health preparedness, enhancing disease surveillance, and ensuring equitable access to preventive and curative healthcare measures are essential for mitigating their effects and safeguarding national health stability.

Healthcare accessibility continues to be a critical issue, with disparities in insurance coverage, healthcare infrastructure, and provider biases contributing to poor health outcomes among disadvantaged populations. The results confirm that uninsured individuals experience higher rates of late-stage disease diagnoses, lower utilization of preventive healthcare, and overall poorer health outcomes. Racial and ethnic disparities further compound these challenges, as minority populations frequently encounter implicit biases in treatment decisions, longer wait times, and limited healthcare access.⁶⁵ Addressing these disparities requires structural changes in the healthcare system, including expanding insurance coverage, increasing funding for community health centers, and promoting culturally competent healthcare practices. Healthcare providers should undergo training to address implicit biases and ensure equitable treatment for all patients, regardless of their socioeconomic or racial background. Severe hospital-related factors also play a crucial role in health outcomes, including microbial resistance due to overuse of antibiotics, inadequate infection control measures⁶⁶, and a lack of equal healthcare access, particularly for marginalized populations, leading to disparities in treatment quality and patient survival rates.

The intersection of race, ethnicity, and socio-economic status in shaping health disparities is particularly evident in the findings. Racial and ethnic minorities, including African Americans, Hispanics, and Indigenous populations, face significantly higher risks of chronic diseases, infant mortality, and poor maternal health outcomes. These disparities are not only the result of socio-economic disadvantages but also stem from historical and systemic discrimination within healthcare systems.⁶⁷ Culturally tailored health interventions, increased representation of minority healthcare providers, and policy reforms that address systemic biases are crucial steps toward achieving health equity. Moreover, several other factors impact health outcomes, including violence and HIV, which are highly prevalent among marginalized populations such as sex workers⁶⁸ and LGBTQ+ individuals due to social stigma, discrimination, and limited healthcare access.⁸⁰ These conditions pose severe, life-threatening health risks, exacerbating disparities and negatively affecting overall well-being. Addressing these challenges requires inclusive healthcare policies, targeted interventions, and community support programs to improve access to prevention and treatment services.

An important factor affecting public health is substance use, particularly among university students, where the consumption of illicit drugs, tobacco, and alcohol is widespread.⁶⁹ This issue is especially severe in middle-income countries such as India, Bangladesh, Pakistan, and several African nations, where social pressures, lack of awareness, and insufficient regulatory enforcement contribute to rising addiction rates.⁷⁵ Substance abuse not only increases the risk of chronic diseases, mental health disorders, and academic decline but also fuels societal challenges such as crime, unemployment, and economic instability. The long-term consequences place a significant burden on national healthcare systems, reducing workforce productivity and exacerbating health disparities. Addressing this issue requires comprehensive public health strategies, including stricter regulations, educational awareness programs, and accessible rehabilitation services to mitigate its impact on individuals and society.⁸²

Employment and job security also play a significant role in shaping health outcomes, with precarious employment conditions contributing to mental and physical health challenges. The results indicate that individuals engaged in low-wage, temporary, or unstable employment are more likely to experience stress-related illnesses, cardiovascular diseases, and depression.⁷⁶ Lack of employer-sponsored health insurance further exacerbates these challenges, leading to financial insecurity and limited access to necessary medical services.⁷⁰ Policymakers must consider labor protections, wage increases, and expanded access to employer-sponsored healthcare to mitigate these effects. Strengthening labor rights and ensuring job stability can contribute to improved overall health outcomes. An important social factor is behavioral issues, such as violence and immoral activities, which contribute to rising crime rates, including knife crime, and increase societal instability.⁷¹ Moreover, these issues often lead to suicide, social stigma, and long-term psychological distress, further impacting both individual well-being and public health.⁷² Addressing these challenges requires targeted social interventions, mental health support, and policies that promote safer communities.

The findings from this study strongly support the need for multi-sectoral interventions to reduce health disparities. While healthcare reforms are essential, they must be complemented by policies addressing broader social determinants such as education, employment, and environmental conditions.⁷⁸ Community-driven initiatives that engage local stakeholders, promote health literacy, and address social inequalities can also play a significant role in improving population health.⁸¹ Additionally, increased investment in public health infrastructure, research on long-term health trends, and data-driven policymaking are essential components of effective health disparity reduction strategies.

Table-5: Summary of Social Determinants of Health and Their Impact on Health Outcomes: This table provides a summary of key social determinants of health (SDOH) and their statistical impact on health outcomes. Each determinant is described along with its specific influence on morbidity, mortality, and overall well-being among different populations.

Social Determinant	Description	Impact on Health
Economic Stability	Includes income, employment, and financial security.	Lower income and unemployment are linked to higher rates of chronic diseases (e.g., diabetes, cardiovascular conditions) and reduced life expectancy (10-15 years shorter). ⁴³
Education	Encompasses educational attainment, literacy, and early childhood education.	Higher education levels correlate with better health literacy, preventive care engagement, and lower risk of chronic diseases (3-5 times higher risk for those without a high school diploma). ⁷⁸
Healthcare Access and Quality	Availability and quality of healthcare services, insurance coverage.	Limited access to healthcare and insurance leads to delayed treatment, higher emergency visits, and poorer health outcomes (50% higher risk of severe health complications for uninsured individuals). ⁵⁷
Neighborhood and Built Environment	Living conditions, housing quality, access to healthy foods, and environmental exposure.	Poor housing and high pollution levels increase risks of respiratory illnesses (60% higher exposure to air pollution), cardiovascular diseases, and other health issues. ⁶¹
Social and Community Context	Social support, community engagement, and exposure to violence.	Strong social support networks improve mental health and overall well-being, while exposure to violence and social isolation negatively impact health.
Socioeconomic Status	Disparities in income distribution and economic opportunities.	Economic inequality exacerbates health disparities, with lower-income groups facing higher morbidity and mortality rates.
Racial and Ethnic Disparities	Disparities in health outcomes among different racial and ethnic groups.	Minority populations experience higher rates of chronic diseases, maternal mortality, and infant mortality due to systemic barriers and discrimination (e.g., African American infant mortality rates are twice as high as those of White populations). ⁷³

Future research should focus on evaluating the long-term effectiveness of interventions aimed at addressing social determinants of health. While various policies and programs have been implemented to reduce disparities, there is a lack of longitudinal studies assessing their sustainability and impact over time. Additionally, innovative approaches, such as integrating digital health solutions and leveraging community-based participatory research, should be explored to address health inequalities more effectively.⁷⁴

A multifaceted approach that integrates policy reforms, community participation, and improved healthcare delivery is essential to mitigate health disparities. Strengthening social support systems, expanding access to quality education, addressing systemic discrimination, and improving environmental health conditions are all necessary components of a sustainable and equitable public health strategy.⁸³ Coordinated efforts among policymakers, healthcare providers, and community organizations will be required to develop and implement sustainable strategies that promote health equity and improve long-term health outcomes for all populations.

Limitations of the Study

While this study provides a comprehensive analysis of social determinants of health (SDOH) and their impact on health disparities, several limitations must be acknowledged. As a secondary data-based study, it is subject to selection bias, publication bias, and methodological inconsistencies across included research. The descriptive and systematic review approach limits causal inferences, preventing direct cause-and-effect conclusions. Additionally, real-time policy changes, localized public health interventions, and socio-economic shifts were not accounted for, potentially affecting the applicability of findings across different regions. The generalizability of results may also be constrained by the underrepresentation of certain marginalized populations. Future research should incorporate longitudinal studies and primary data collection to provide deeper insights into the evolving impact of SDOH and assess the effectiveness of targeted interventions over time.

Recommendations and Suggestions for Future Research

Future research should aim to overcome the limitations identified in this study by incorporating longitudinal study designs that track changes in social determinants of health over time. This would provide deeper insights into the causal relationships between SDOH and health disparities, rather than relying solely on cross-sectional analyses. Additionally, researchers should consider expanding primary data collection efforts, such as conducting large-scale surveys, interviews, and focus groups within affected populations. These approaches can provide more context-specific insights and highlight real-time shifts in health inequities driven by policy changes, economic fluctuations, or environmental transformations.

Another area for future exploration is the development of intervention-based studies that assess the effectiveness of policies and community-driven programs in reducing health disparities. While this study highlights the importance of policy interventions, there is a need for empirical research that

evaluates which strategies yield the most significant improvements in healthcare access, economic stability, and education-related health outcomes. Comparative studies between different regions or countries with distinct policy frameworks can also offer valuable lessons on best practices for addressing social determinants of health.

Researchers can further improve upon this study by adopting multi-sectoral analytical approaches that integrate health data with economic, educational, and environmental datasets. The interplay between these determinants is complex, and more advanced statistical modeling techniques—such as machine learning algorithms or mixed-methods research—could provide more nuanced insights into their interdependence. Additionally, future studies should focus on marginalized and underrepresented populations, including rural communities, indigenous groups, and migrant populations, to ensure that health disparities are analyzed comprehensively across all socio-economic and demographic contexts. By refining methodologies, expanding data sources, and evaluating intervention effectiveness, future research can contribute significantly to reducing global health disparities and fostering more equitable healthcare systems.

Conflict of Interest

The authors declare that there are no conflicts of interest pertaining to this study. The research was conducted with complete independence and objectivity, devoid of any external organizational influence, financial incentives, or affiliations that could potentially compromise the integrity of the findings. Each author has contributed solely based on academic and scientific inquiry, ensuring transparency and impartiality throughout the research process.

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Conclusion

The study demonstrates the fundamental role of social determinants of health (SDOH) in shaping health disparities and influencing morbidity, mortality, and overall well-being. Economic inequality, educational attainment, environmental conditions, healthcare access, and systemic inequities collectively contribute to persistent health gaps, emphasizing the urgent need for comprehensive, evidence-based policy interventions. Unlike prior research that often analyzes these determinants separately, this study highlights the importance of an integrated, multi-sectoral approach that considers the complex and interrelated effects of social, economic, and environmental factors on health outcomes. Achieving sustainable reductions in health disparities requires targeted policy reforms aimed at reducing structural inequities, increasing economic opportunities, improving access to quality education and healthcare, and mitigating environmental risks. Furthermore, fostering cross-sector collaborations among policymakers, public health institutions, community organizations, and healthcare providers is essential for developing equitable and long-term health interventions. Addressing these challenges necessitates a commitment to research-driven policies, robust public health strategies, and innovative community-based initiatives that directly engage affected populations. Future research should prioritize longitudinal studies and intervention-based approaches to evaluate the effectiveness of policies and programs that address SDOH. By advancing a holistic, interdisciplinary framework, this study contributes to the broader discourse on health equity, emphasizing the need for systemic change to create more inclusive, just, and sustainable public health systems that improve population health outcomes on a global scale.

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Authors' Contributions

Hasan MR conceptualized and led the study design, conducted the literature review, and performed data analysis. Flemming J and Moorgan P contributed to data extraction and analysis. Harper S conducted data analysis. All authors reviewed and approved the final manuscript.

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