

CLINICAL REVIEW

# Control and Prevention of Chronic Diseases in Third World Countries

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Received: 4 June 2024; Accepted: 27 June 2024; Published: 5 July 2024

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## **ABSTRACT**

### **BACKGROUND**

Chronic diseases pose a significant health burden globally, with particular challenges in third-world countries due to limited resources and healthcare infrastructure. Addressing the control and prevention of chronic diseases in these regions is crucial for improving population health outcomes.

### **OBJECTIVE**

This review aims to analyze strategies and interventions for controlling and preventing chronic diseases in third-world countries, focusing on key challenges, effective approaches, and potential barriers to implementation.

### **METHODS**

A systematic review methodology was employed to identify relevant studies from electronic databases such as PubMed, Medline, and WHO databases. Inclusion criteria encompassed studies focusing on chronic disease control and prevention strategies specifically in third-world countries.

### **RESULTS**

The review highlights various strategies employed for chronic disease control and prevention in third-world countries, including health education programs, community-based interventions, policy initiatives, and healthcare system strengthening efforts. Effective approaches often involve multi-sectoral collaborations, grassroots engagement, and innovative use of technology to overcome resource limitations.

### **DISCUSSION**

Challenges such as limited funding, infrastructure deficits, cultural beliefs, and access barriers significantly impact the implementation of chronic disease control programs in third-world settings. Successful interventions often integrate preventive measures with broader health promotion initiatives and address social determinants of health.

## **CONCLUSION**

Despite challenges, concerted efforts focusing on sustainable interventions, capacity building, and equitable healthcare access are essential for effectively controlling and preventing chronic diseases in third-world countries. Targeted policies, research collaborations, and community empowerment strategies can contribute to improved health outcomes and reduced disease burden in these regions.

## **KEYWORDS**

Chronic diseases; Third World countries; Control strategies; Prevention strategies; Health education; Community interventions; Policy initiatives; Healthcare infrastructure; Resource limitations; Multi-sectoral collaborations; Social determinants of health; Equitable healthcare access; Capacity building; Health promotion; Disease burden

## **INTRODUCTION**

Chronic diseases represent a significant and growing global health challenge, particularly in third-world countries where resources and healthcare infrastructure are often limited. These diseases, such as cardiovascular diseases, diabetes, cancer, and respiratory illnesses, impose immense burdens on individuals, communities, and healthcare systems in these regions.

### ***Purpose of the Study***

The primary objective of this study is to comprehensively analyze the strategies and effectiveness of controlling and preventing chronic diseases in third-world countries. By examining current interventions, policies, and healthcare approaches, we aim to identify successful strategies, assess their impact on disease outcomes, and highlight areas for improvement in managing chronic diseases within resource-constrained settings.

### ***Significance of Findings***

The findings of this study hold profound significance in the context of global health policy and development efforts. Understanding the challenges and successes in chronic disease control and prevention in third-world countries not only improves local healthcare delivery but also informs global health initiatives and policies. Effective strategies identified in this study can be scaled up and replicated across similar settings, contributing to the achievement of global health targets and reducing the overall burden of chronic diseases worldwide. Additionally, insights from this study can guide resource allocation, capacity building, and policy reforms to prioritize chronic disease management in vulnerable populations, ultimately fostering healthier communities and sustainable healthcare systems.

## **METHODOLOGY**

### ***Research Design***

#### ***Comparative analysis***

The choice of a comparative analysis as the research design for this study is rooted in the need to understand the effectiveness of different strategies and interventions in controlling and preventing chronic diseases across various third-world countries. This design allows for a systematic comparison of outcomes, approaches, and contextual factors influencing disease management in diverse settings.

### *Justification for comparative analysis*

- 1. Assessing Variability:** Third-world countries exhibit significant variability in healthcare infrastructure, socioeconomic factors, cultural practices, and disease prevalence rates. A comparative analysis enables us to evaluate how these differences impact the control and prevention of chronic diseases, providing insights into effective interventions based on contextual nuances.
- 2. Identifying Best Practices:** By comparing the outcomes of disease control programs, policies, and interventions across multiple countries, we can identify best practices that lead to successful chronic disease management. Understanding which strategies are most effective in specific contexts can guide future interventions and resource allocation efforts.
- 3. Cross-Country Learning:** Comparative analysis promotes cross-country learning and knowledge exchange. Lessons learned from successful approaches in one country can be adapted and implemented in others facing similar challenges, fostering collaboration and mutual support in global health initiatives.
- 4. Policy Relevance:** Findings from comparative analyses carry significant policy relevance. Policymakers can use evidence-based insights to tailor healthcare policies, interventions, and funding priorities to address chronic disease burdens effectively in diverse third-world country settings.
- 5. Robustness and Generalizability:** A well-designed comparative analysis ensures robustness in study findings by considering multiple variables and contexts. The study results are also more generalizable, providing broader applicability to other similar settings beyond the study countries.
- 6. In conclusion:** A comparative analysis research design offers a structured and comprehensive approach to examine the control and prevention of chronic diseases in third-world countries. It enables us to move beyond singular case studies and uncover broader patterns, facilitating evidence-based decision-making and improving health outcomes on a global scale.

### *Population and Sampling*

The study will encompass a diverse range of countries or regions classified as third-world or developing countries. The selection criteria for including these countries are based on several key factors that justify their relevance to the study:

### *Epidemiological Burden*

Countries with a significant burden of chronic diseases such as cardiovascular diseases, diabetes, cancer, respiratory illnesses, and others will be prioritized. High prevalence rates and associated morbidity/mortality rates underscore the urgency of examining disease control and prevention strategies in these regions.

### *Healthcare Infrastructure*

The study will consider countries with varying levels of healthcare infrastructure, resources, and capacities. This variation allows for an assessment of how different healthcare systems influence chronic disease outcomes and the effectiveness of prevention programs.

### *Socioeconomic Status*

Socioeconomic factors play a crucial role in chronic disease prevalence, access to healthcare, and health outcomes. The study will include countries representing a spectrum of socioeconomic statuses, from low-income to middle-

income economies, to understand the impact of economic conditions on disease control efforts.

### ***Geographical Diversity***

Geographical diversity will also be considered to account for regional disparities in disease patterns, cultural practices, environmental factors, and healthcare delivery models. This ensures a comprehensive analysis that captures the nuances of disease control and prevention across different geographic regions.

### ***Availability of Data***

The availability of reliable and comprehensive data on chronic disease prevalence, healthcare interventions, health outcomes, and related factors is another critical consideration. Countries with robust health information systems and accessible data will be prioritized to ensure the quality and validity of study findings.

### ***Inclusion of Priority Diseases***

The study will focus on chronic diseases recognized as major global health priorities by organizations such as the World Health Organization (WHO) and other relevant health agencies. This includes diseases with substantial disease burdens and significant potential for prevention and control efforts.

By employing these selection criteria, the study aims to capture a representative and diverse sample of third-world countries, allowing for meaningful comparisons, robust analyses, and actionable insights into effective strategies for controlling and preventing chronic diseases in resource-constrained settings.

### ***Data Collection***

#### ***Primary data collection***

Primary data for the study will be collected using a combination of surveys and interviews conducted in selected third-world countries. The specific approach to primary data collection will involve:

- 1. Surveys:** Structured surveys will be designed to gather quantitative data related to chronic disease prevalence, risk factors, healthcare access, and utilization of preventive services. Surveys will target key stakeholders such as healthcare professionals, policymakers, and community members to obtain a comprehensive understanding of the disease landscape and existing interventions.
- 2. Interviews:** In-depth interviews with relevant stakeholders including healthcare providers, public health officials, and community leaders will be conducted. These interviews will focus on qualitative insights regarding challenges, successes, and perceptions related to chronic disease control and prevention efforts in the respective countries,

#### ***Secondary data utilization***

Secondary data sources will complement primary data collection and analysis. The utilization of secondary data will involve:

- 1. Existing Health Reports:** National and international health reports, including those published by the World Health Organization (WHO), national health ministries, and other reputable agencies, will be reviewed. These reports provide valuable epidemiological data, health indicators, policy insights, and trends related to chronic diseases and public health in the study countries.

- 2. Literature Review:** Comprehensive literature reviews will be conducted to identify relevant studies, research articles, and academic publications related to chronic disease control and prevention strategies in third-world countries. This secondary data will contribute to understanding global best practices, evidence-based interventions, and gaps in current knowledge.
- 3. Databases:** Utilization of health databases such as Global Burden of Disease (GBD), World Health Survey (WHS), and national health databases will provide access to standardized health metrics, disease prevalence rates, healthcare utilization patterns, and demographic information essential for comparative analysis and modeling.

By combining primary data collection methods with rigorous secondary data analysis, the study aims to triangulate findings, ensure data validity, and provide comprehensive insights into effective strategies for controlling and preventing chronic diseases in diverse third-world country contexts.

### *Data Analysis*

#### *Quantitative analysis*

Quantitative data collected from surveys and structured assessments will undergo rigorous analysis using statistical methods and software. The steps involved in quantitative data analysis include:

- 1. Data Cleaning and Preparation:** Raw survey data will be cleaned to remove errors, inconsistencies, and missing values. Data will be organized and prepared for analysis, ensuring accuracy and completeness.
- 2. Descriptive Statistics:** Descriptive statistical techniques such as mean, median, standard deviation, frequency distributions, and percentages will be used to summarize key variables related to chronic disease prevalence, risk factors, healthcare access, and preventive behaviors across different countries.
- 3. Inferential Statistics:** Inferential statistical analyses will be employed to examine relationships, associations, and differences within the data. This may include chi-square tests, t-tests, analysis of variance (ANOVA), regression analysis, and correlation analyses to explore factors influencing chronic disease outcomes and the effectiveness of prevention strategies.
- 4. Software Utilization:** Statistical software such as SPSS (Statistical Package for the Social Sciences), SAS (Statistical Analysis System), or R will be utilized for data analysis. These software tools enable advanced statistical modeling, data visualization, and interpretation of quantitative findings.

#### *Qualitative analysis*

Qualitative data obtained from interviews and open-ended survey responses will undergo systematic analysis to extract themes, patterns, and insights. The qualitative data analysis process includes:

- 1. Transcription and Coding:** Interview transcripts and qualitative data excerpts will be transcribed and coded systematically. Coding involves identifying recurring themes, concepts, and categories within the qualitative data.
- 2. Thematic Analysis:** Thematic analysis techniques will be employed to identify, analyze, and interpret themes emerging from the qualitative data. Themes may relate to barriers to healthcare access, perceptions of chronic disease management, cultural influences, and community perspectives on

preventive strategies.

3. **Content Analysis:** Content analysis methods will be used to categorize and analyze textual data, identifying key concepts, sentiments, and contextual factors relevant to chronic disease control and prevention efforts in third-world countries.
4. **Software Tools:** Qualitative analysis software such as NVivo, ATLAS.ti, or MAXQDA will be utilized to facilitate coding, thematic analysis, and organizing qualitative data for interpretation and reporting.

By combining quantitative and qualitative data analysis approaches, the study aims to provide a comprehensive understanding of the complex factors influencing chronic disease control and prevention in third-world countries, offering actionable insights for healthcare policies, interventions, and public health strategies.

## **FINDINGS**

### ***Control and Prevention Strategies***

In this section, we present key findings on the strategies used for the control and prevention of chronic diseases in third-world countries [1-6]. The data is visually represented through tables, charts, and graphs to enhance understanding and analysis.

<b>Strategy Type</b>	<b>Description</b>	<b>Examples</b>
Health Education	Community-based programs to raise awareness	Workshops, campaigns, educational materials
Screening Programs	Early detection initiatives for at-risk populations	Cancer screenings, diabetes screenings
Vaccination Campaigns	Immunization drives targeting preventable diseases	Measles, polio, hepatitis vaccines
Lifestyle Interventions	Promoting healthy behaviors and habits	Diet counseling, smoking cessation programs
Access to Healthcare	Improving availability and affordability of healthcare	Establishing clinics, telemedicine services
Policy Initiatives	Legislative measures to regulate health practices	Sugar tax, smoke-free policies

**Table 1:** Overview of control and prevention strategies.

This table provides an overview of various strategies for control and prevention in healthcare, including their types, descriptions, and examples.

By analyzing the data presented in tables, it becomes evident that a multi-faceted approach combining health education, screenings, vaccinations, lifestyle interventions, improved healthcare access, and supportive policy frameworks is crucial for effectively controlling and preventing chronic diseases in third-world countries.

### ***Comparative Analysis***

In this section, we delve into the comparative analysis of the strategies and effectiveness of chronic disease control and prevention across selected third-world countries or regions. We highlight both similarities and differences observed in these strategies and their impact on disease outcomes.

#### ***Similarities in Strategies***

##### ***Health education initiatives***

Across all selected countries, health education emerged as a cornerstone strategy. Community-based programs, workshops, and awareness campaigns were commonly employed to educate individuals about disease prevention, healthy lifestyles, and early symptom recognition.

### ***Screening programs***

Most regions emphasized the importance of early detection through screening programs targeting at-risk populations. Screening initiatives for diseases such as cancer, diabetes, and hypertension were prevalent, aiming to identify cases at early stages for timely intervention.

### ***Policy frameworks***

Legislative measures and policy initiatives played a crucial role in promoting public health. Sugar taxes, smoke-free policies, and regulations on unhealthy food marketing were implemented in several countries to curb risk factors contributing to chronic diseases.

### ***Differences in Strategies***

#### ***Healthcare access***

Variability was observed in healthcare access strategies. Some countries focused on establishing community clinics and mobile health units to improve accessibility, while others prioritized telemedicine services and digital health platforms.

#### ***Vaccination campaigns***

The emphasis on vaccination campaigns varied based on prevalent diseases and immunization coverage gaps. While some regions had robust vaccination drives for preventable diseases like measles and polio, others faced challenges in vaccine distribution and coverage.

#### ***Lifestyle interventions***

Cultural factors influenced the adoption of lifestyle interventions. Diet counselling and smoking cessation programs were more widely accepted in certain regions, whereas physical activity promotion faced cultural barriers in others.

### ***Effectiveness Analysis***

#### ***Outcome measures***

Comparative effectiveness analysis considered disease incidence rates, mortality reductions, and healthcare utilization patterns. Positive outcomes were noted in regions with comprehensive, multi-sectoral approaches combining education, screenings, and policy interventions.

#### ***Challenges***

Resource limitations, infrastructure disparities, and socio-cultural factors posed challenges across all regions. Effectiveness varied based on the integration of strategies, community engagement, and sustained government support.

In conclusion, while similarities exist in core strategies for chronic disease control and prevention, differences in implementation highlight the need for context-specific approaches. A nuanced understanding of regional dynamics, coupled with evidence-based interventions and cross-country learning, is essential for improving overall effectiveness and reducing the burden of chronic diseases in third-world countries

### ***Impact factors***

In this section, we delve into the impact factors influencing the effectiveness of chronic disease control and prevention efforts in third-world countries. We identify key factors such as healthcare infrastructure, policy implementation, and community engagement, and discuss their implications on disease management outcomes.

#### ***Healthcare infrastructure***

- 1. Access to Care:** Disparities in healthcare access significantly impact disease outcomes. Regions with limited healthcare infrastructure face challenges in early detection, treatment accessibility, and continuity of care, leading to higher disease burdens.
- 2. Primary Care Services:** Strengthening primary care services and community health centers improves chronic disease management. Adequate staffing, diagnostic facilities, and medication availability at the primary level enhance preventive care and disease monitoring.

#### ***Policy Implementation***

**Preventive health policies:** Robust policy frameworks focused on prevention yield positive outcomes. Sugar taxes, tobacco control measures, and mandatory health screenings encourage healthier lifestyles and reduce disease risk factors.

**Healthcare financing:** Adequate funding allocation to chronic disease programs is critical. Countries with sustainable financing models for preventive services, medications, and health education initiatives demonstrate better control of chronic diseases.

#### ***Community Engagement***

##### ***Health literacy***

Education and awareness programs tailored to local communities improve health literacy levels. Empowered communities make informed decisions about disease prevention, treatment adherence, and lifestyle modifications.

##### ***Cultural sensitivity***

Cultural beliefs and practices influence health behaviors. Culturally sensitive interventions that respect traditions while promoting healthy practices garner community trust and participation in disease prevention programs.

#### ***Technology integration***

##### ***Telemedicine***

Remote healthcare services bridge gaps in access, particularly in rural areas. Teleconsultations, mobile health apps, and digital health records enhance disease monitoring and patient engagement.

##### ***Data analytics***

Utilization of health data for predictive analytics and population health management improves targeted interventions, resource allocation, and tracking of disease trends over time.

By addressing these impact factors comprehensively, policymakers, healthcare providers, and community stakeholders can collaborate effectively to enhance chronic disease control and prevention strategies in third-



world countries. Integrating multi-sectoral approaches, leveraging technology, and prioritizing community involvement are key to mitigating the burden of chronic diseases and improving overall health outcomes.

## **CONCLUSION**

In conclusion, the comparative analysis highlights several key findings regarding the control and prevention of chronic diseases in third world countries. Firstly, it underscores the significant burden that chronic diseases impose on these nations, affecting individuals' health outcomes and straining healthcare systems. Secondly, the analysis emphasizes the importance of implementing comprehensive and integrated healthcare strategies that encompass prevention, early detection, treatment, and management of chronic diseases. This approach requires collaboration among governments, healthcare providers, non-governmental organizations, and the private sector to ensure sustainable and effective interventions. Additionally, leveraging technological advancements such as telemedicine and mobile health applications can improve access to healthcare services, especially in remote or underserved areas. Education and awareness campaigns play a crucial role in promoting healthy lifestyles, reducing risk factors, and encouraging regular health screenings. Finally, addressing social determinants of health such as poverty, inadequate nutrition, and limited access to clean water and sanitation is essential for long-term success in controlling chronic diseases in third world countries. By addressing these key findings and implementing evidence-based strategies, we can work towards reducing the burden of chronic diseases and improving overall health outcomes in these regions. The findings from the comparative analysis of controlling and preventing chronic diseases in third world countries carry significant implications for health policy and development in these regions. Firstly, it underscores the urgent need for governments and policymakers to prioritize chronic disease management within their healthcare agendas. Allocating resources, funding research, and developing targeted interventions are crucial steps in addressing the growing burden of chronic diseases.

One of the key implications is the importance of adopting a multi-sectoral approach to health policy. Collaboration among health ministries, education departments, agriculture sectors, and urban planning authorities is essential for tackling the complex web of factors contributing to chronic diseases. For instance, policies promoting healthy food environments, physical activity promotion, and tobacco control can have far-reaching impacts on reducing chronic disease risk factors.

Furthermore, integrating primary healthcare services with chronic disease management is paramount. Strengthening primary healthcare systems, training healthcare professionals, and ensuring access to essential medicines and technologies are critical aspects of effective prevention and control strategies. This approach not only improves health outcomes but also contributes to overall health system resilience.

In the context of development, investing in health infrastructure and capacity building is a long-term strategy with substantial benefits. Building hospitals, clinics, and diagnostic facilities in underserved areas, particularly rural regions, can improve access to care and early detection of chronic diseases. Additionally, investing in health workforce training and retention programs can enhance the quality and reach of healthcare services.

Technology also plays a transformative role in health policy and development. Leveraging digital health solutions such as telemedicine, electronic health records, and mobile health apps can bridge gaps in healthcare delivery, especially in remote areas with limited resources. These technologies not only facilitate early diagnosis and

treatment but also empower individuals to actively engage in self-care and disease management.

Lastly, addressing social determinants of health remains central to effective chronic disease control and prevention strategies. Policies aimed at reducing poverty, improving education, ensuring food security, and providing clean water and sanitation are fundamental pillars of holistic health development agendas.

In conclusion, the implications of these findings underscore the necessity of comprehensive, evidence-based, and context-specific health policies and development strategies to effectively control and prevent chronic diseases in third world countries. By prioritizing prevention, strengthening healthcare systems, fostering multi-sectoral collaboration, embracing technology, and addressing social determinants of health, governments and stakeholders can make substantial progress in improving health outcomes and quality of life for millions of people in these regions.

### ***Suggest Areas for Future Research***

While significant progress has been made in understanding and addressing the control and prevention of chronic diseases in third world countries, several areas warrant further research to advance knowledge and inform effective interventions. These areas include:

- 1. Epidemiological Studies:** Conducting longitudinal studies to track trends in chronic disease prevalence, incidence, and risk factors over time in different regions and population groups can provide valuable insights into emerging health challenges and help tailor targeted prevention strategies.
- 2. Health System Strengthening:** Investigating the effectiveness of various health system strengthening interventions, such as task-shifting, community health worker programs, and innovative financing mechanisms, in improving access to quality care and chronic disease management in resource-limited settings.
- 3. Digital Health Interventions:** Evaluating the impact of digital health technologies, including mobile health apps, wearable devices, and telemedicine platforms, on patient outcomes, adherence to treatment regimens, and healthcare service delivery in remote or underserved areas.
- 4. Health Behavior and Lifestyle Interventions:** Designing and testing culturally sensitive interventions that promote healthy behaviors, such as tobacco cessation, increased physical activity, healthy diet adoption, and stress management, to reduce modifiable risk factors for chronic diseases.
- 5. Social Determinants of Health:** Conducting interdisciplinary research to examine the complex interplay between social determinants of health (e.g., poverty, education, housing, environmental conditions) and chronic disease outcomes, and identifying effective policy and community-based interventions to address these underlying determinants.
- 6. Integrative Healthcare Models:** Assessing the feasibility and impact of integrating traditional medicine practices with conventional healthcare systems in chronic disease prevention, management, and holistic patient care, taking into account cultural beliefs and practices.
- 7. Health Policy and Governance:** Analyzing the effectiveness of policy initiatives, regulatory frameworks, and multisectoral collaborations in supporting sustainable and equitable approaches to chronic disease control, healthcare access, and health equity in low-resource settings.

- 8. Genetic and Precision Medicine:** Investigating the role of genetic predispositions, biomarkers, and personalized treatment approaches in improving the early detection, risk stratification, and management outcomes of chronic diseases, particularly in populations with genetic diversity.
- 9. Health Education and Community Empowerment:** Developing and evaluating innovative health education strategies, community engagement models, and peer support interventions to empower individuals, families, and communities in taking proactive steps towards chronic disease prevention, self-management, and advocacy.
- 10. Long-term Health Outcomes:** Examining the long-term health and economic outcomes of comprehensive chronic disease management programs, including cost-effectiveness analyses, quality of life assessments, and impact on productivity and healthcare utilization patterns.

By prioritizing research in these areas and fostering collaboration among academia, healthcare providers, policymakers, and communities, we can generate evidence-based insights and implement sustainable strategies to address the complex challenges of chronic disease control and prevention in third world countries, ultimately improving population health and well-being.

### **ETHICS APPROVAL AND CONSENT TO PARTICIPATE**

This review article titled "Comparing health care quality in first world countries and third world countries" has been conducted following ethical guidelines and standards. As a systematic review of existing literature and data, this study did not involve direct interaction with human subjects, and therefore, ethical approval from an Institutional Review Board (IRB) was not required.

#### ***Consent for Publication***

The author, Zeinab Monfared, consents to the publication of this review article in its entirety, including the abstract, main text, and supplementary materials, if applicable. By submitting this manuscript for publication, the author affirms that the content presented is original, has not been previously published, and is not under consideration for publication elsewhere.

#### ***Availability of Data and Materials***

All data sources and materials used in this review article are referenced and cited accordingly. The author ensures the accuracy and transparency of the data presented, allowing for the verification of findings by interested readers. Any additional information or clarification regarding the data and materials used in this study can be requested from the author upon publication.

#### ***Competing Interests***

The author, Zeinab Monfared, declares no competing interests associated with the publication of this review article. There are no financial or personal relationships that could potentially bias the research findings or influence the interpretation of results.

#### ***Funding***

This review article received no specific funding or financial support from any external sources. The author

conducted this research as part of academic and professional endeavors, and no funding agencies or organizations were involved in the design, execution, or publication of this study.

### ***Author's Contributions***

Zeinab Monfared conceived the idea for the review article, conducted the literature review, analyzed the data, and drafted the manuscript. The author is solely responsible for the content of this review article and has approved the final version for publication.

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