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REVIEW ARTICLE

A Narrative Review of the Diabetes Burden in Somalia

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Abstract: Somalia faces a growing yet under-researched burden of diabetes, compounded by conflict and humanitarian challenges. This narrative review explores the current understanding of this public health concern. Limited access to medications, disruptions in healthcare, and a lack of culturally-sensitive education programs pose significant barriers to effective diabetes management. However, examples of successful community-based interventions and collaborations between healthcare facilities and international organizations offer hope. Further research on Somali-specific epidemiology and risk factors, alongside investment in resource allocation, healthcare worker training, and culturally-sensitive education, hold immense potential to improve diabetes outcomes in Somalia. By addressing these critical areas, Somalia can empower individuals with diabetes to manage their condition effectively and work towards a healthier future.

Keywords: Diabetes mellitus, Somalia, Management challenges, Community-based interventions,

1. INTRODUCTION

Diabetes mellitus, commonly referred to as diabetes, is a chronic metabolic disorder characterized by persistent hyperglycemia resulting from defects in insulin secretion or action [1]. This can be caused by either the body's inability to produce enough insulin (type 1 diabetes) or an impaired response of cells to insulin (type 2 diabetes), the latter being the most prevalent form [2]. Diabetes has emerged as a major global health concern, with the International Diabetes Federation (IDF) estimating that 463 million adults (aged 20-79 years) were living with diabetes in 2019, with a projected rise to 700 million by 2045 [3]. This rapid increase poses a significant threat to healthcare systems worldwide, as diabetes and its complications are major contributors to morbidity and mortality [1]. The economic burden is also substantial, with the IDF estimating the global cost of diabetes at $760 billion in 2019 [3]. Understanding the prevalence, risk factors, and impact of diabetes across diverse populations is crucial for developing effective prevention and management strategies.

Somalia presents a unique context for studying the burden of diabetes. The country has a long history of conflict, displacing millions and disrupting healthcare infrastructure [4]. This instability has hampered the collection of reliable epidemiological data on diabetes prevalence [5]. Furthermore, the healthcare system in Somalia remains fragile, with limited access to specialists, medication, and essential supplies [6]. These factors combine to create a challenging environment for both the prevention and management of diabetes, potentially leading to a higher disease burden and poorer health outcomes compared to more stable regions.

Given the limited availability of robust epidemiological data in Somalia, this narrative review aims to explore the current understanding of the diabetes burden in the country. This will be achieved through a systematic synthesis of existing literature, encompassing both quantitative and

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qualitative studies, reports, and relevant data from neighboring countries or the Somali diaspora.

2. THE LOOMING SHADOW: THE GROWING PREVALENCE OF DIABETES IN SOMALIA

Despite the growing global concern over diabetes, epidemiological data on its prevalence in Somalia remains notably scarce. This paucity of data can be attributed to the country's prolonged periods of political instability, economic challenges, and an under-resourced healthcare system, which have collectively hindered comprehensive health surveys and data collection efforts. The limited available studies suggest a rising trend in diabetes prevalence, mirroring the global increase, yet these findings are based on small-scale, often regional studies that may not fully capture the national situation (7). This lack of robust data impedes the development of targeted public health interventions and policies necessary to address and manage the disease effectively within the Somali population. Therefore, there is an urgent need for systematic epidemiological studies to provide a clearer understanding of diabetes prevalence and inform evidence-based health strategies in Somalia.

In the absence of comprehensive data from Somalia, studies from neighboring East African countries with similar demographics and risk factors can provide valuable insights. For instance, Ethiopia, a neighboring nation, reports a significant diabetes prevalence of around 3% [8]. Additionally, research on the Somali diaspora in high-income countries suggests a high susceptibility to developing diabetes, likely due to lifestyle changes and dietary shifts [9]. Extrapolating from these findings and considering Somalia's shared risk factors like urbanization, dietary changes towards processed foods, and limited access to healthcare, this review suggests a potentially substantial but underreported diabetes burden in the country.

Somalia faces several risk factors for diabetes that are likely contributing to the potential burden. Dietary shifts towards processed foods with high sugar and fat content, coupled with decreasing physical activity levels due to urbanization, mirror trends observed globally that contribute to type 2 diabetes. Additionally, genetic predisposition to diabetes may play a role, as studies suggest a higher prevalence among Somali populations [9]. These factors, combined with limited access to healthcare and preventative measures, create a concerning scenario for diabetes management in Somalia.

3. BEYOND NUMBERS: THE HUMAN COST OF DIABETES IN SOMALIA

Due to the limited access to healthcare and diagnostic tools in Somalia, many individuals with diabetes may remain undiagnosed, leading to potentially devastating consequences. Uncontrolled diabetes can significantly impact quality of life, causing complications such as blindness, neuropathy, and kidney failure. A study by Mohamed *et al.* (2014) exploring the Somali diaspora in Sweden highlights the potential human cost, revealing a high prevalence of diabetes-related complications amongst this population [9]. This emphasizes the urgency of addressing the diabetes burden in Somalia to prevent similar negative health outcomes for its citizens.

Diabetes mellitus (DM) significantly burdens daily life, requiring meticulous blood sugar monitoring, dietary adjustments, and medication adherence [1]. Management strategies can impact quality of life, with studies highlighting increased emotional distress and difficulties maintaining social routines [10]. Furthermore, disparities in socioeconomic status and healthcare access can limit medication affordability, jeopardizing glycemic control and potentially leading to sight-threatening retinopathy, neuropathy, and cardiovascular complications [11]. This underscores the need for multifaceted interventions that address not only the biological aspects of DM but also the social determinants of health to optimize patient outcomes.

4. A FRAGILE HEALTHCARE SYSTEM: CHALLENGES IN DIABETES MANAGEMENT

A fragile healthcare system characterized by limited access to facilities and specialists poses a significant challenge to effective diabetes management. This disparity hinders crucial aspects like regular check-ups, specialist consultations for complications, and access to essential medications. Studies have shown that such limitations are associated with poorer glycemic control, increased risk of complications, and ultimately, higher healthcare costs [12]. Therefore, strengthening healthcare infrastructure, particularly in underserved areas, and exploring telemedicine or community-based diabe-

tes education programs are essential steps to improve diabetes outcomes and reduce healthcare burdens.

Somalia faces a significant challenge in managing diabetes due to a shortage of medications and supplies. Disruptions in the supply chain and limited healthcare infrastructure often restrict access to essential medications like insulin, blood glucose meters, and test strips [13]. This scarcity, coupled with food insecurity and a lack of trained healthcare providers specializing in chronic disease management, creates a complex scenario where complications like neuropathy, retinopathy, and kidney failure become more likely [5]. Further research is needed to explore the efficacy of culturally-sensitive interventions and resource allocation strategies to improve diabetes management outcomes in Somalia.

Conflict and displacement pose a substantial barrier to effective diabetes management in Somalia. Internal strife and recurring droughts disrupt access to healthcare facilities and medication supplies, jeopardizing treatment continuity for diabetic individuals [14]. Displaced populations often face challenges securing culturally appropriate food options and maintaining a consistent exercise routine, further compromising glycemic control [15]. This highlights the need for mobile healthcare units, culturally sensitive educational programs, and collaboration with humanitarian organizations to ensure displaced Somalis with diabetes have the resources necessary to manage their condition effectively.

5. BEYOND THE CRISIS: STORIES OF RESILIENCE AND HOPE

Efforts to address diabetes in Somalia combine community-based initiatives with support from NGOs and international organizations. Community health workers facilitate diabetes education programs delivered in Somali languages, promoting self-management strategies like healthy eating and blood sugar monitoring [16]. Partnering with NGOs like World Diabetes Foundation, healthcare facilities can improve access to medications through donation programs and subsidized treatment options [3]. Additionally, international organizations like the International Diabetes Federation provide technical assistance and training for healthcare providers, strengthening diabetes management capacity within Somalia. These collaborative efforts demonstrate the potential for multisectoral approaches to improve diabetes outcomes in conflict-affected settings.

Despite the multifaceted challenges, examples of successful diabetes management in Somalia showcase remarkable resilience. A study by Abdullahi *et al.* (2018) documented the positive outcomes of a culturally-sensitive, group-based diabetes self-management education program in Mogadishu [16]. Participants demonstrated improved knowledge of diabetes and reported adopting healthier dietary practices and increased physical activity. This initiative highlights the potential of community-based interventions to empower Somali individuals with diabetes to effectively manage their condition within the constraints of their environment.

6. A CALL TO ACTION: CHARTING A COURSE FOR THE FUTURE

Somalia faces a significant burden of diabetes despite having a lower prevalence compared to other regions. Studies like the Somali Health and Demographic Survey (2018-2019) indicate a concerning prevalence of around 8.3% for chronic illnesses, with diabetes ranking among the most prevalent [7]. This burden is compounded by the complex challenges faced by both patients and healthcare providers.

Firstly, shortages of medications and supplies, as highlighted by the World Health Organization, restrict access to essential treatments like insulin and blood glucose monitoring tools [13]. This scarcity, coupled with limited healthcare infrastructure, creates a situation where complications from diabetes are more likely. Secondly, conflict and displacement, as documented by Ahmed *et al.* (2014), disrupt treatment continuity and access to culturally appropriate food options, further jeopardizing glycemic control [16].

These findings underscore the urgent need for further research on the specific epidemiology and risk factors of diabetes in Somalia. A deeper understanding of the population demographics and environmental factors influencing diabetes prevalence would be crucial for developing targeted interventions. Additionally, research into the efficacy of culturally sensitive education programs and resource allocation strategies, as explored by Abdullahi *et al.* (2018), can inform the design of

more effective diabetes management strategies in Somalia [4].

Somalia requires increased investment and support from international organizations and NGOs. Programs that address medication access, healthcare worker training, and community-based education hold immense potential to improve diabetes outcomes. Collaborative efforts, as exemplified by the partnership between healthcare facilities and the World Diabetes Foundation, demonstrate the power of a multi-sectoral approach in strengthening diabetes management within Somalia [3]. Investing in these areas can empower Somalis with diabetes to manage their condition effectively and improve their overall well-being.

7. CONCLUSION

In conclusion, Somalia faces a significant yet under-researched diabetes burden, compounded by logistical and humanitarian challenges. Limited access to medications, disruptions in healthcare due to conflict, and a lack of culturally-sensitive education programs pose substantial barriers to effective diabetes management. However, studies showcasing successful community-based interventions and collaborative efforts between healthcare facilities and international organizations provide a beacon of hope. Further research on the epidemiology and risk factors specific to the Somali context, alongside increased investment in resource allocation, healthcare worker training, and culturally-sensitive education, holds immense potential to improve diabetes outcomes in Somalia. By addressing these critical areas, Somalia can empower individuals with diabetes to effectively manage their condition and work towards a healthier future.

AUTHORS' CONTRIBUTIONS

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

CONSENT FOR PUBLICATION

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CONFLICT OF INTEREST

The author confirms that this article's content has no conflict of interest.

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