A Policy Analysis on Tackling Obesity in Kenya

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A Policy Analysis on Tackling Obesity in Kenya

Thesis submitted in partial fulfilment of the requirement for the degree of Master of Public Health

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Where other people's work has been used (either from a printed source, internet, or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.
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Signature:

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DEDICATION

I dedicate this work to my parents^{++}.

ACKNOWLDEGMENT

My heartfelt gratitude goes to my advisor, Dr. Nasrat Ansari for his unwavering support, unending encouragement and support even when it was dark and I had given up on this work. Hermen and Nnwaneka, thank you for not giving up on me, your patients and for your firm grip on me facilitated me to complete this academic work. I will be forever grateful to my sponsor for their substantial contribution, patience and pivotal contribution to in the achievement of my academic desires. My appreciation further goes to the entire KIT for the resources and support provided throughout my study.

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Contents

List of Figures

List of Abbreviations

BETA - Bottom-up Economic Transformation Agenda
BMI - Body Mass Index
CDC - Centre for Disease Control
COMESA - Common Market for East and Southern Africa
EAC - East African Community
EMCCF - Emergency, Chronic and Critical-care Fund
FOLP - Front-of-Pack labelling
GDP - Gross Domestic Product
GSDPA - Global Strategy on Diet, Physical Activity and Health
ICD - International Classification of Disease and Related Health Problems
ICT - Information and Communication Technology
KNPM - Kenya National Nutrient Profile Model
KNSHP - Kenya National School Health Policy
MSMEs - Micro, Small and Medium Enterprises
MTP IV - Medium-Term Plan IV
MTPs - Medium-Term Plans
NAP - Nutrition Action Plan
NCD-ICC - NCDs Inter-agency Coordinating Committee
NCDs - Non-communicable Diseases
NFSNP - National Food Security and Nutrition Policy
NHA - National Health Accounts
NHIF - National Hospital Insurance Fund
NNP - National Nutrition Policy
NSHP - National School Health Policy
OECD - Organization for Economic Co-operation and Development
OOP - Out-of-pocket
PAF - Policy Analysis Framework
PHC - Primary Health Care
PHCF - Primary Health Care Fund
SDGs - Sustainable Development Goals
SHA - Social Health Authority
SHI - Social Health Insurance
SHIA - Social Health Insurance Act
SHIF - Social Health Insurance Fund
THE - Total Health Expenditure
TWG - Technical Working Groups
UHC - Universal Health Coverage
UN - United Nations
WB - World Bank
WHA - World Health Assembly
WHO - World Health Organization

Glossary

Body Mass Index (BMI) An index used to classify obesity by dividing a person's weight in kilograms by the height in square meters (kg/m^2). obesity is a BMI greater than or equal to 30. The World Health Organization (WHO) defines obesity as abnormal or excess fact accumulation that may impair health (1). In this paper obesity will be used to cover both conditions in adults.

Civil Society In the context of public health, civil society refers to the collective of non-governmental organizations (NGOs), community groups, advocacy networks, professional associations, faith-based organizations, and other non-state actors that operate independently from government and the private sector.

Healthy Lifestyle Is a way of living based on personal choices and habits; and with supporting environment that promotes health and lowers the risk of being ill or dying early.

Out-of-pocket spending Out-of-pocket spending refers to the direct payments individuals make for healthcare services and goods at the point of care, excluding costs covered by insurance, subsidies, or reimbursements.

Patient Support Groups Refers to a group of people with common experiences and concerns who provide emotional and moral support for one another.

STEPS Survey STEPS is a WHO-developed, standardized but flexible framework for countries to monitor the main NCD risk factors through questionnaire assessment and physical and biochemical measurements. It is coordinated by national authorities of the implementing country.

Abstract

Background: Obesity is a growing public health concern in Kenya, where 19% of adults were overweight and 8.9% obese, with an increasing prevalence. Obesity drivers are attributed to lifestyle changes and urbanization. Obesity contributes to the alarming rise in noncommunicable diseases in the country while the health system is ill-equipped to address these health conditions. The situation is compounded by the positive economic transition intensifying the obesogenic environment.

Objective: To assess the existing policies on the prevention and control of obesity in Kenya, with the aim of identifying gaps and providing insights for policymakers to further develop policies to control obesity.

Methodology: This study employed a literature review methodology to systematically analyse obesity prevention and control policies in Kenya. Academic and grey literature, including peer-reviewed articles, government documents, and policy papers, were reviewed. A total of 108 documents published between 2014 and 2024 were included, focusing on Kenya's policy landscape and regional context. The policy details and findings were analysed thematically using the CDC Policy Analysis framework to identify patterns, gaps, and opportunities in existing policies.

Findings: The main drivers for obesity found in Kenya included increasing economic status and rapidly increasing urbanization resulting in adoption of unhealthy lifestyles. Cultural factors related to diet; body image and physical activity were found to hinder health promoting interventions. The major habits driving obesity in Kenya included consumption of unhealthy foods high in calories, fat, and sugar as well as consumption of alcohol. The country has several policies in place that require strengthening.

Conclusion and recommendation: The study's recommendations emphasize the need for comprehensive multisectoral action and multidisciplinary approach to address rising obesity in Kenya. Key recommendations include strengthening national policies for a supportive physical and regulatory environment, enhancing multi-sectoral collaboration, re-orienting health services, and implementing robust research and surveillance systems.

Key words: Obesity, Policy, Non-communicable Diseases, Kenya

Word count: 12,365

Introduction

Obesity is often perceived as a simple issue of people who eat too much and carelessly, and are even blamed for it, made to feel victimized. However, it is more than that. I have lived with obesity all my life, and I know it is a bad thing, but sometimes I have felt it is a good thing.

In my culture it is good to be a voluptuous woman and sometimes I enjoy the attention we get or the comments we get. But really for your own personal well-being it's not always a good thing: It hurts at work; it hurts your ego; some people have psychological problems; sometimes you don't fit in places, it is hard to find a bike in The Netherlands than can carry me; it's hard to buy clothes; you cannot walk very far; you have pain in your joints; you have aches in your body; you're sweating; some people have high medical spending. If it is not annoying, it is embarrassing, especially in my area of work in prevention of NCDs. It takes a lot of courage.

As I grow older, the weight gain is more, and it's even more difficult to bear it. In addition, obesity runs in my family, and I see a lot of people suffer from it and I wish it could change. Sometimes when you eat, people even would ask you: You are so big, and you are still eating! They are insensitive about it, but when you look at the amount of food they eat themselves, you see it’s more than what you eat, or the kind of food they eat is so unhealthy, yet they don't grow big. It is if you are being victimised for growing, for being obese.

I wish that I knew when I was younger what I know now, and that there had been systems to support me to choose to be more physically active and made me aware of how I could have reduced my weight in my younger years. Maybe I would be living a more active life now.

I want to investigate what we can do as a society, and as policy makers, to help my fellow countrymen and women to become more aware and create an environment to help them prevent obesity and live a heathier long life.

Chapter 1: Background

1.1 Obesity

The World Health Organization (WHO) defines obesity as abnormal or excess fat accumulation that may impair health(1). Among adults, the Body Mass Index (BMI) is a calculated measure of weight relative to height and is used to determine whether a person has healthy or unhealthy weight. Obesity is defined as a BMI greater than 30.The International Classification of Disease and Related Health Problems (ICD)(2) describes obesity as a chronic, relapsing, multifactorial diseases and a risk factor for Non-communicable Diseases (NCDs). There are other complex factors stemming from individual, social, economic, political, and environmental conditions in which people leave. These drivers of obesity together have been described as an obesogenic environment(3).

Besides genetic and environmental risk factors for NCDS, there are four key modifiable behavioural risk factors. Tobacco use of which there are 1.3 billion user globally(4), harmful use of alcohol for which 17% of global population older than fifteen years and current alcohol consumers engaging in heavy episodic drinking(5), physical inactivity of which one in 25% of adults and 75% adolescents aged 11to 17 years do not engage in recommended sufficient physical activity globally(6); and consumption of unhealthy food and nutrients which was above the optimal levels globally in 2017(7) with 40% and 60% of the global population consuming inadequate amounts of recommended daily vegetable and fruit intake(8). These behaviours result in metabolic and physiological changes such as high blood pressure, raised blood sugar and obesity which then result in the development of NCDs(9). Although obesity is preventable, if unaddressed it can lead to poor health, diminished general wellbeing, disability and even premature death (10).

Globally, the prevalence of obesity has sustainably increased, according to the World Obesity Federation it increased more than threefold between 1975 and 2022 (11); more recently from 1990 to 2022 obesity quadrupled from 2% to 8% among children aged between 5 to 19 years while it doubled among adults from 7% to 16 % in the same period (1). In 2022, 2.5 billion adults were overweight while 890 million lived with obesity, translating to 43% and 16% of global adult population respectively, and that 1 in 8 persons lived with obesity in the world. In the same year 390million children and adolescents aged between 5 and 19 years were overweight with 160 million these being obese. In 2024, 35 million children below the age of five years were overweight(12). In 2016, the global burden of Physical inactivity remained high and estimated to be about int$54billion annually in direct health care costs with additional int$14billion in lost productivity; and accounting 1 to 3% of national health care costs(13).

Among Organization for Economic Co-operation and Development nations (OECD) obesity is a matter of concern as it is estimated to shorten life by 2.7 years across all OECD countries and that 3.8% of health budget in the next three decades will go into addressing obesity(14). In the European Union adults in the lowest income groups are more likely, women 90% and men 50%, to be obese as opposed to those in the highest income (15). The same report highlighted the likelihood of children with obesity in this region to be less likely to perform well in school as well as not completing higher education, compared to children who had normal weight. In addition, it reported that every adult who had at least one chronic disease associated with overweight.

There was paucity of data on obesity in the African region. However, available data estimated that about 31% of the adult population in the African region is overweight(16). In Kenya obesity has been on the rise among all population groups and 19% of adults were overweight and 8.9% were obese in 2015(17).

Recognizing obesity as an increasing global health problem and the role of diet and physical activity in prevention of diseases, the World Health Assembly in 2004 aopted the Global Strategy on Diet, Physical Activity and Health(18) to guide countries in developing national policies for prevention and control of obesity. Subsequently, the WHA adopted the Global Action Plan on Physical Activity 2018-2030 to further scale up physical activity and reduce sedentary behaviour by extending the global target of a relative reduction in prevalence of insufficient physical inactivity from 10% to 15% by 2025(19).

Kenya partially adopted the strategy vide the National Guidelines on Diet and Physical Activity(20) which became obsolete in 2017 as it had not been revised. Kenya had several policies that provided legislative, policy and administrative mechanisms for anchoring obesity interventions. These included the Constitution of Kenya of 2010(21), the Kenyan Health Act of 2017(22), the Primary Health Care Act of 2023(23), the Social Health Insurance Act of 2023(24),Vision 2023(25), Kenya Health Policy(26) , National Food and Nutrition Policy of 2011(27);and the National Strategic Plan for the Prevention and Control of NCDs(28), Kenya Nutrition Action Plan(29), Bottom-up Economic Transformation Agenda (BETA)(30) among others.

Obesity is a raising public health challenge in Kenya, where health systems are not prepared to its complications including the management of NCDs (8). Additionally, the double burden of malnutrition, in which undernutrition as well as obesity is present a given population in a context or country. This phenomenon is increasingly affecting low- and middle-income countries due to rapidly changing food systems(31).

Reducing obesity is therefore crucial that national interventions address the root causes of obesogenic environments whiles empowering individual and communities to make healthy lifestyle choices. This would not only halt and reverse current trends of obesity but also improve health outcomes, reduce health care costs and increased productivity of Kenyans(32).

1.2 Kenya - Geographical location and socio-economic status

Kenya is in the East Region of the African continent with an estimated land mass of 582,464Km². Most of the land, 80%, is arid or semi-arid with sparse population in these areas. The World Bank (WB) estimates the population at 54,985,702 with an annual population growth of 2.2% and a life expectancy of 67 years(33). The 2019 showed a male to female ratio of 49.5:50.5 and an estimated 1,500 intersex people(34). The average household is 3.9. The population density is estimated at 92.65 people per km² (35). The country's population trends, and the population pyramid is shown in figures 1.2.1 and 1.2.2 respectively.

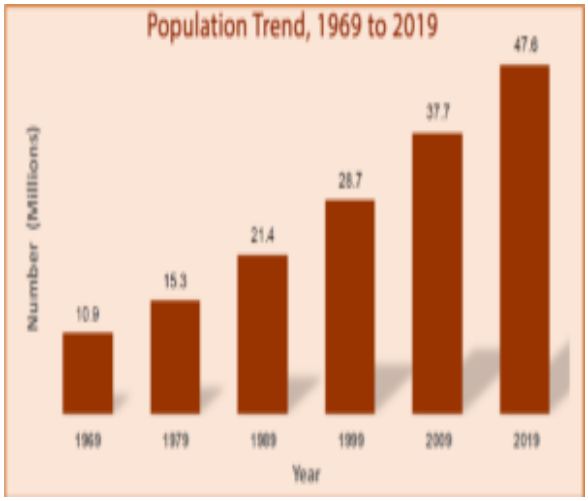

Figure 1.2.1: Population trend in Kenya

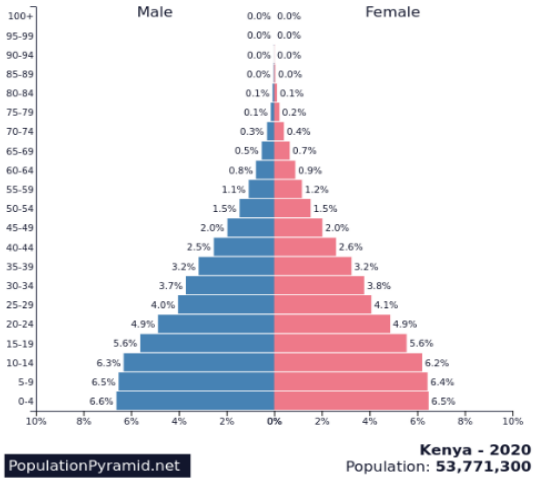

Figure 1.2.2: Population Pyramid for Kenya 2020

The 2021 nominal Gross Domestic Products (GDP) was KSH 12,098.2 billion (USD 93.21 billion) with a GDP per capita of KSH 245,145 which had grown by 11% from previous. The Gross national disposable income grown from KSH 11,0598.2 to 12,588.2 billion in the same period(36). About 36% of the population lived below the poverty line and the literacy rate for those above 15 years was 84.4%. Majority of the people, 75%, owned a mobile phone with 16% of using the internet mainly for social networking while 79% reported the radio and phone as the most used ICT equipment.

1.3 Political situation

The Constitution in 2010 which introduced the two-tiered governance system, one national government and 47 county governments which are distinct and interdependent. The National government is mainly responsible for policy making while the county government is responsible for implementation(21). The Vision 2030 (25) is the government's blue print for development which guides all national action plans. The priorities of the current government are in the contained in the "Big Four Agenda" which demonstrates the priorities for the current government(38). Kenya is a member of various regional blocks and global bodies for cooperation in political, economic and social spheres including the East African Community (EAC)(39), Common Market for East and Southern Africa (COMESA)(40), United Nations(41) as well as the World Trade Organization among others. These relationships are bound by treaties, agreements, policies, and actions that are important for the prevention of obesity and will be explained later in the study.

1.4 Organization of Health Services

The Health Act (22) organized health services in six levels: Level 1: Community Health Services; Level 2: Dispensaries: Level 3: Health Centres; Level 4: Sub-County Hospitals; Level 5: County Referral Hospitals; Level 6: National Referral hospitals. According to the National Health Accounts (NHA), the main sources of health care funds are the government, households, private insurance, and donor funding: Tax collected by the government accounting for 44%; Donor funds 18%; National Hospital Insurance Fund (NHIF) 8%; Private (voluntary) Insurance 10%; Out of pocket spending at 24%. The proportion of Total Health Expenditure (THE) is approximately 6.7% of the total government expenditure. Total Health Expenditure in Financial year 2015/16 accounted for 5.2% of Gross Domestic Product (GDP) (42). According to the National Health Care Financing Strategy High out-of-pocket (OOP) spending on health is a major course of impoverishment and catastrophic spending in the country with 2.4 Million Kenyans at risk of catastrophic spending (43).

The Kenya Health Workforce Report revealed that Kenya in 2017 had in total 9,497 doctors; 51,469 nurses; 1,066 dentists, 13,913 clinical officers, 6,626 and 4,445 laboratory technologists and technicians respectively; 2,377 and 7,243 pharmacists and pharmaceutical technologists respectively(44). The core health workforce density was 15.6/10,000 (workers/population) which was below the national target of 25. The country has surpassed the WHO recommendation for national health facility density of 2 per 10,000 at 2.2, however 30% of the counties fall below the mark(45).

1.5 Health situation

The burden of diseases in general has greatly declined in Kenya, but there was an increase in the risk factors for NCDs, 54% of deaths were due to communicable, maternal and neonatal causes while injuries accounted for 7% of deaths (46). About 39% of deaths were due to NCDs up from 27% in 2014. Currently NCDs account for 55% of hospital admissions (which is costly) and 50 % of hospital deaths, usually occurring prematurely between ages of 30 and 70 years(47)**.** It is projected that the number of deaths from NCDs and injuries will be 55% and 25% respectively by 2030 (26). In Kenya there was no documented local evidence for genetic predisposition to diseases. However, lifestyle risk factors for NCDs were prevalent with 8.5% and 11.8% of adults regularly consuming tobacco and alcohol respectively(48). According to the Steps Survey of 2015, 12.7% of adults Kenyans engaged in heavy episodic drinking, 94% did not consume adequate fruit and vegetable per day, 84% regularly added sugar when preparing beverages at home, 6.5% did not engage in adequate physical activity. Additionally, the same study revealed that 27% of adults were overweight or obese, 23.6% had raised blood pressure or were on treatment for hypertension, 3.1% and 1.9% had impaired or raised blood glucose respectively and 10% had abnormal cholesterol. Other findings of the study revealed that an individual adult had at least 4 risk factors for NCDs while 6% had a more than 30% risk for cardiovascular diseases. The presence of these risk factors, metabolic and physiological changes indicate an impending epidemic of NCDs in the country. In addition, 56%; 88%, and 98% of the adult Kenyan had never been screened for hypertension, diabetes, and cholesterol, respectively. Furthermore, only 22% and 40% of those diagnosed with elevated blood pressure and high blood glucose were medication, respectively(17). These findings demonstrate that the burden of NCDs would continue to rise in the country and that country's health system was not prepared to address these diseases as there is low awareness and access to health services for NCDs.

Chapter 2: Problem Statement, Justification, Objectives

2.1 Problem statement

According to the World Obesity Atlas in 2022, majority, 65%, of obese people lived in low- and middle-income countries in 2020 where health systems are ill-equipped to deal with the obesity problem(49). Women made up the larger proportion of those affected. In 2023, the report recommended investing in Obesity interventions without which the global economic would be reduced by over $4 trillion in 2035 being equivalent to about 3% of global GDP(50). The report in 2024 showed that high BMI was observed in all countries with notable highest increase in some low-income countries in the past ten years. In addition it projected that 3.3 billion people in the world will be obese by 2035 with a reflected increase from 42% to 54% from by the same year from 2020 and from 22% to 39% among young people aged between 5 and 19 years in the same period.(51). Most importantly, it estimated the annual rate of increase in high BMI in Kenya would to be 5.3% for children and 6.23% for adults between 2020 and 2035; and that by the same year the prevalence of obesity is expected to rise to 8.4% among children aged 5 to 9 years, 5.5% among those aged 10 to 19 years, and 10% among adults.

The economic impact of obesity was estimated to be about 1% of GDP across countries in the African region in 2020 and is expected to rise to more than 2% in this region and more than 3% of GDP globally by 2060. Notably, the rise in economic impact is projected to be highest in low- and middle-income countries at about twelve to twenty-five times in the same period. Further, that in low and middle income countries by 2060(52). The highest economic impact continues to affect the countries already experiencing a double burden of malnutrition alongside other high health inequities. As Kenya is one of the countries in the regions that is expected to be most affected by obesity in the near future, it is alarming that these could further embed already existing social and health inequities in the country.

The World Obesity Federation has established a system for ranking countries on preparedness to tackle obesity and NCDs. The ranking is based on an average score in performance in each of the following areas: effectiveness of Universal Health Coverage, premature deaths due to NCDs as proportion to all NCD deaths, nationally reported availability of care for obesity-related NCDs; and availability of national policies to tackle NCDs and NCDs-related risk factors. Kenya was ranked very poorly in its preparedness to respond standing at 143 out of 183 countries(49). It is socio-economically threatening for the country with predicted premature deaths from these diseases being 71% of all NCD deaths by 2030 (53) which could impoverish households and retard the country’s socio-economic development.

Besides obesity being one of the major risk factors for NCDs, it is a cause of psychological, social and physical illness. According to the WHO and Centre for Disease Control, obesity is associated with negative psychosocial consequences as well as medical risks such as diabetes and cardiovascular diseases, such as hypertension, heart attacks and stroke. It also causes breathing difficulties and various cancers, and general poor quality of life(1). Obesity is one of the key drivers of the rising prevalence of NCDs in Kenya, where health systems are weak and unprepared to manage obesity and NCDs (54). Therefore, Kenya cannot afford to wait any longer but needs to address the risk factor to detonate this ticking time-bomb. Currently, 24% of Kenyans are already at risk of catastrophic health spending(43). Consequently, if obesity is not prevented, individuals and households will not only be impoverished but driven into a cycle of poverty, from obesity, unproductivity from obesity with related morbidity and mortality will consequently impoverish the society at large.

Rise in obesity is affiliated to a range of factors at individual level, the community level as well as socioeconomic and political systems. There is a positive correlation on increase in GDP and rise in unhealthy diets and physical inactivity (55). Also, the increase in production of processed food, rapid urbanization and changing lifestyle has led to a shift in diet. As economies grow people consume more unhealthy food high in sugar, salt and fat; and less fruit, vegetable and fibre(1). As the GDP of Kenya is continuously growing it is expected that obesity will become worse. Citizens continue to have more disposable income accompanied by unregulated commercial invasion of companies which production, marketing and sale of unhealthy products, leading to adoption of unhealthy lifestyles(36). This includes fast food companies, technological advancements and automation leading to less active/ sedentary lifestyles resulting in continued rise in the prevalence of obesity.

2.2 Justification

Obesity is preventable and reversible(56) therefore, addressing it can immensely contribute to the improved health outcomes and reduction of NCDs, as well general well-being of Kenyans. More effort, particularly policy and regulatory interventions, has been put addressing the other major risk factors for NCDs such as tobacco use, alcohol consumption, environmental pollution as well as prevention of human papilloma virus for cervical cancer. However, not much attention has been put on promotion of healthy diet and promotion of physical activity to prevent obesity. While the other major risk factors apply similar popular-based approaches such as fiscal measures, regulation of product contents, regulation of marketing and creation of public awareness to promote healthy choices, these interventions are as well effective for obesity and can be applied as lesson learnt from existing examples. This would not only allow

for referencing in legislation and policy formulation but would facilitate demonstration of cost-effective and comprehensive approach to prevention and control of NCDs and overall health maximization. It is therefore urgent that obesity interventions are prioritized and scaled up to halt and reverse the rising trends.

Although the government had developed policies and guidelines on NCDs, the national guidelines on diet and physical activity 2012 – 2017 was obsolete. And these national documents need to be reviewed to incorporate the recommendations of the global action plan on physical activity 2018-2030 among other current global policy frameworks.

Furthermore, there is limited data on policy implementation gaps on obesity prevention that can be used to develop evidence-based polices. Therefore, this study will systematically analyse the determinants of obesity and identify policy gaps, providing recommendations for key priority areas in preparation for the review of the current strategy. Further, this study will provide up-to-date information with comprehensive, scientifically sound and effective approaches to obesity prevention to contribute to the prevention of NCDs and improved health outcomes and well-being of Kenyans. Lastly, by implementing up-to-date effective obesity prevention measure, the government will be ensuring that Kenyans enjoy their right to information, protection from harmful environments and reach the highest possible standard of health as enshrined in the Kenyan constitution of 2010.

2.3 Objectives

2.3.1. Overall objective

To assess the existing policies on the prevention and control of obesity in Kenya, with the aim to identify gaps and providing insights to policy makers for improving of policy development.

2.3.2 Specific objectives

i. To describe the burden of obesity, lifestyle, socio-economic and health services drivers of obesity in Kenya.
ii. To identify existing policies instruments and their design for prevention and control of obesity in Kenya.
iii. To analyse policy interventions and identify gaps in Kenya's obesity policies, using the Global Strategy on Diet, Physical Activity, and Health as a framework for assessment.
iv. To recommend policy options for Kenya to accelerate the reduction of prevention and control of obesity with subsequent reduction in excess morbidity and mortality from related NCDs.

Chapter 3: Methodology

3.1 Study design

A literature review methodology was chosen because it provided a rigorous and comprehensive approach to synthesizing existing evidence on obesity prevention and control policies in Kenya. Literature reviews are particularly valuable for policy analysis as they enable the systematic identification of gaps in existing policies while providing evidence-based recommendations for improvement. This methodology allows for the examination of both academic literature and grey literature, including policy documents and government reports, which is essential for understanding the complete policy landscape. Furthermore, through comprehensive search strategies and clear inclusion criteria, facilitating the identification of patterns and themes across multiple sources will minimize the risk of review bias.

3.2 Search Strategy and Sources of data

Different search engines were used such as PubMed/MEDLINE, Google Scholar, and Web of Science. Grey literature of databases explored included WHO website, Kenya Ministry of Health website, and World Bank documents. Policy repositories such as the Kenya Law Repository and WHO Global Database were also consulted to ensure comprehensive coverage. In sourcing these documents, three phases approach were utilised including initial scoping search using key terms, comprehensive database search, and reference list screening of identified papers. The search terms and phrases were carefully selected and organized into thematic categories to ensure thorough coverage of the study topic. Obesity-related terms include obesity, BMI, diet, and physical inactivity. Terms related to nutrition were Obesity, Overweight, Over Nutrition, Adiposity, Malnutrition, BMI. The terms related to causes of obesity used were Risk factors, Predisposing factors, social determinants and Predictors, Terms related to effects of obesity included obesity-related diseases, Non-communicable Diseases, Lifestyle diseases, Chronic diseases, and cost of obesity. Policy-related terms encompassed policy, legislation, regulation, strategy, and guidelines. Geographic focus terms included Kenya, East Africa, Sub-Saharan Africa; and Low- and middle-income countries. These terms were combined in various ways using Boolean operators AND and OR. Peer reviewed articles as well as published and unpublished documents were used in the study. Published articles and unpublished documents relating to the study, published between 2014 to 2024, and written in English were included in the study. An exception was made for key policy documents and seminal works that did not meet these criteria but were found to be crucial for the study. A total of 111 documents were obtained during the search and was narrowed to 102 documents that fit the study context.

3.3 Data Analysis

Data extraction was conducted using a standardized form developed from Microsoft Excel which followed a thematic approach, guided by the CDC's Policy Analysis Framework(57). The form captured essential information including document characteristics (type of document, source, year, authors), policy content and context in which it was developed or written, strategies, implementation, key findings and gaps as recommendations found in the documents. The extracted data analysis involved, systematic organization of data in descriptive themes, and generation of analytical themes aligned with study objectives using the seven components of the framework. The findings were synthesised while reflecting on the recommendation of the WHO strategy for diet and physical activity and health as well in comparison with experiences and best practices in other similar jurisdictions. The analysis focused particularly on identifying patterns, gaps, and opportunities in Kenya's obesity prevention and control policies, with the goal of providing actionable recommendations for policy improvement. To ensure quality and reliability only documents from credible sources and authorities sources acknowledged and were referenced appropriately.

3.4 Conceptual framework

The Policy Analysis Framework by Centre for Disease Control (PAF)(57) was used to guide the study and was found suitable as a roadmap and provided a structured approach to achieving the objectives of the study. Additionally, the framework was deemed simple yet comprehensive with all the components necessary for a policy analysis in a systematic manner. The framework was found to be appropriate to structure the study findings and discussion and guiding the recommendations. The PAF was used in identification and description of obesity problem in Kenya, identification of basis and processes for development of policies and analysis of obesity policies in Kenya and in the discussion of the findings and informing the recommendations.

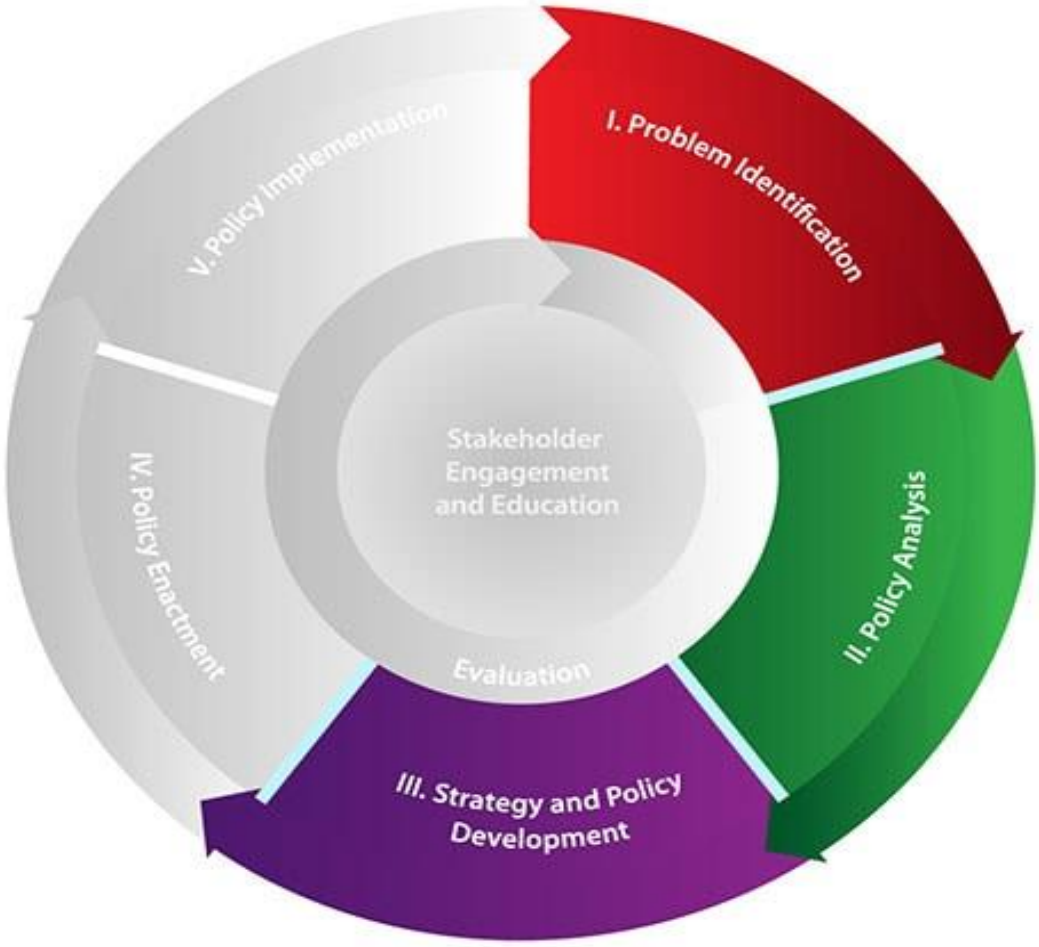

Figure 3.3: Policy Analysis l framework by CDC (2024)

Source: https://www.cdc.gov/polaris/php/cdc-policy-process/policy-analysis.html

This framework has seven domains: Problem identification, policy analysis, Strategy and Policy development, Policy enactment, Policy Implementation, evaluation and stakeholder engagement and education. The application of the framework is described as follows:

i) Problem Identification

The CDC's Policy Analytical Framework begins with identifying and defining the public health problem. For this study, this was used to identify and describe the obesity problem in Kenya in terms of risk factors, trends and other determinants of obesity, creating a foundation for understanding obesity as a problem in Kenya.

ii) Policy Analysis

This component was used in identification, reviewing and evaluating existing policies to determine their content and scope while identifying strengths, weaknesses, and identifying gaps areas for improvement. Documents such as legislation, policies, strategies, and guidelines and action plans were analysed. The discussions and recommendations were made based on the

findings against of the global and regional recommendations, including the recommended best buys for obesity prevention and control, as well as practices in other similar jurisdictions.

iii) Strategy and Policy Development

This component was used to study the factors, processes and procedures for formulating obesity policies in Kenya in comparison with the proposed steps and procedures used in setting policies. The findings provided the basis for recommendation to prioritize scalable responsive, best practice, cost-effective, and context-specific solutions.

iv) Policy Enactment and Implementation

This component informed and guided the study component on policy adoption, endorsement and execution at national and subnational levels the factors, that facilitated or hindered these processes in Kenya. Further, it was used to make identify and describe implementation in terms of governance structures, budgetary allocation, human resources capacity as well as synergies with other policies. Additionally, the study sought to identify in what setting the policies were implemented including learning institutions, workplaces and community settings and recommendations for improving policy adoption and ensuring successful execution made.

v) Policy Evaluation

Policy evaluation assesses the impact and outcomes of enacted policies. The study analysed literature to determine the presence and use of monitoring and evaluation plans, indicators and tools for obesity policies and utilization of evaluation results for policy development and improvement. In addition, it was used to make recommendation for improvement and to ensure robust monitoring and evaluation mechanisms to facilitate application of Kenyan experiences at national, regional and global cooperation.

vi) Stakeholder Engagement and Education

Effective policy development requires engaging relevant stakeholders and educating the public. The literature review sought to identify the stakeholder involved in policymaking, implementation and evaluation of obesity-related policies. The study explored the stakeholder involved and their role ranging from government ministries and agencies, healthcare providers, academia, research institutions, civil society, beneficiaries like community groups and people with lived experiences.

Chapter 4: Results

This literature review analysed 111 documents published between 2014 and 2024, encompassing both peer-reviewed articles and grey literature focusing on obesity in Kenya. The analysis and presentation of results in this section follows the structured approach outlined in the Policy Analytical Framework by CDC and are organized into seven major themes: Problem identification, Policy analysis, Strategy and policy development, Policy enforcement, Policy implementation, Stakeholder engagement and education; and Evaluation. The review particularly emphasized studies that examined lifestyle factors, socioeconomic determinants, and health system responses, providing a comprehensive understanding of the obesity landscape in Kenya. Special attention was given to studies that included primary data collection and long-term follow-up assessments.

4.1 Problem identification: Drivers of obesity in Kenya

4.1.1 Lifestyle factors: Diets, physical activity, and tobacco and alcohol use

Lifestyle factors emerge as significant drivers of obesity in Kenya, with several key behavioural patterns identified through the analysis. Dietary changes, characterized by increased consumption of energy-dense foods, processed meals, and sugar-sweetened beverages, represent a primary contributor to rising obesity rates (72). Additionally, declining physical activity levels, particularly in urban areas, combined with increased sedentary behaviours related to technological advancement and urbanization, have created an environment conducive to weight gain across various demographic groups(58). These patterns are particularly pronounced among urban dwellers and higher socioeconomic groups.

Dietary Habits and practices: Majority of Kenyans (94%), consumed less than recommended five servings of fruit and/or vegetables per day while 83.9% added sugar when cooking or preparing food and beverages at home. About half of Kenyans, with 60% being women, reduced their sugar consumption in beverages. However, the highest proportion of people who added sugar while preparing food at home was among those aged 18-29 years (32%), urban residents (27%), and those in the lowest income quintile (35%) (5). Although data for comparison was limited, some communities, such as the Swahili from the coastal region, were found to prepare and consume foods rich in sugar, fat, and coconut milk (39).

Level of physical activity: Physical activity can avert 5% of global deaths while inactivity increases the risk of death by up to 30%. Most Kenyans, 95%, were found not to undertake adequate physical activity with majority spending only about two hours every day in sedentary time (17). A striking finding is that among the Swahili people who had a high prevalence of

physical inactivity among adults with 75% of the adults in the community living a sedentary lifestyle associated with high prevalence of obesity. Admittedly, this community used motorised transport even for short distances.

It was noted that in alcoholic drinks, alcohol provides about 7.1 Kcal (29kJ) per gram of alcohol and more depending on the amount of sugar it contains. Besides, it increases appetite hence motivating irregular and more eating; and was an addictive source of energy intake (59). Although light-to-moderate consumption of alcohol is not associated with weight gain, heavy drinking was found to be linked to heart diseases and stroke (60). It was found that 12.8% of Kenyans were heavy episodic drinkers of alcohol(61), the majority of them consuming home cereal-based brewed beer and wine made from grain with high in caloric content (62).

4.1.2 Socio-ecological factors: Gender, education, living/working environment, built environment, security and policy environment

Knowledge and Medical Factors: Although there was limited data in Kenya to demonstrate genetic factors, studies have demonstrated genetic predisposition to obesity, along with certain underlying medical conditions such as Cushing's disease, and medications including steroids and antidepressants being associated with weight gain and obesity (33).

Education and Employment: Studies have revealed significant relationships between education levels and health behaviours. Approximately 46% of Kenyans who engage in heavy episodic drinking of alcohol had only primary education(63), with non-government employees and self-employed individuals showing higher likelihood of this behaviour (45). found that while 85% of males and 83% of females were aware that excessive sugar consumption could cause serious health problems, only 14% of adult Kenyans considered their sugar consumption excessive (46).

Demographic and Lifestyle Factors: Multiple studies have identified consistent patterns in obesity risk factors in Kenya. The Kenya Demographic and Health Survey highlighted the relationship between socioeconomic status and obesity prevalence (47). This trend is attributed to lifestyle factors such as reduced physical activity and increased consumption of high-calorie diets associated with wealthier populations.

Additionally, it was found that obesity rates tend to be higher among middle-aged individuals, particularly women, due to factors such as hormonal changes, decreased metabolic rate, and lifestyle shifts that occur with age. This implies that targeted interventions addressing diet, physical activity, and health education are crucial for this demographic to mitigate the risk of

obesity and related health complications (48). Notably a confirmed these patterns and highlighted the particular vulnerability of individuals with Kikuyu ethnicity(64).

Each of reviewed studies contributes unique insights while collectively building a comprehensive understanding of obesity's socio-ecological determinants in Kenya. The evidence consistently points to the interplay between socioeconomic status, education, lifestyle behaviours, and demographic characteristics in shaping obesity risk.

Gender: Obesity was more common among women than men. The STEPs survey revealed that 38.5% of women were overweight, and 13.7% were obese. In comparison, 17.5% of men were overweight, and 4.7% were obese (5). A similar trend was observed in Ghana, where the use of contraceptives was identified as a predictor of obesity among women (52). This may contribute to the higher prevalence of obesity among Kenyan women, as 60% of married women in Kenya use some form of contraceptive (53). Regrading smoking, men were found to have higher prevalence in consumption of tobacco and heavy episodic drinking which could put them at risk of becoming obese (17). Marital status was found to influence drivers of obesity including alcohol consumption, dietary habits and physical activity(17).

Race and Ethnicity: Although there was scarcity of data to demonstrate the genetic association of obesity among Kenyans or black Africans a study that reviewed existing data could not find sufficient evidence to support it(65). However, a recent study found a complex genetic association of obesity(66). Kenya is predominantly composed of black people of about fifty-two different tribes with distinct dietary practices. NCDs, obesity was predominantly present among the kikuyu tribe (17). It is the largest tribe in Kenya (34) with a majority living in central region of Kenya and in close proximity to the capital and other major towns. From personal experience, the tribe is perceived by most Kenyans as being the most industrious and economically better off than most tribes; Hence they can afford more non-traditional food including the rampant rising fast foods high in fat and sugar; as well as affording a more automated lifestyle hence less physical activity. Another study showed that About 82.7% of the Swahili people who had a historic association with Arabic culture, were found to be obese this was found to be consistent with findings among women in Arabic countries (67).

Cultural norms and practices: Cultural context influences how people would like to be perceived (68). Older men with big bellies are considered wealthy and respected for having enough to eat (63).

In addition, cultural food practices could be drivers of obesity for example the tendency to eat calorie-dense food, fatty meat and use of animal fat in food preparation and preservation. In

some communities, vegetables are considered pasture for animals and diets consist more of starch and energy dense foods while fruits are considered a snack and not a source of nutrient. Among the Swahili people religion was stated as one of the factors restricting women in engaging in physical activity (69). These people are historically associated with Arabs as they engaged in trade during colonial time, this could explain the similarities in their culture and therefore high obesity among Arabic women (67).

In the traditional context, alcohol consumption was acceptable ins some context in the western and rift valley regions of Kenya and was engrained in significant cultural activities such including child naming, circumcision, marriage, funerals, worship, and prayer(70). In the coastal region the youth used and abused alcohol because it was condoned by their significant other such a parents and older siblings(71).

Living and work environment: The environment in which people live and work greatly influence the level of physical activity and dietary habits and consequently energy intake and expenditure, which are the major dynamics in obesity. About half of the global population live in cities and it is expected that by 2050 it will rise to two thirds (14). Predictably, Kenya, like other countries in Sub-Saharan Africa, is currently defined by urbanization with strong urban migration (72) and rapidly expanding population. This is expected to put pressure on existing resources and requiring increase of social amenities and infrastructure.

Industrialization and urbanization has been increasing in Sub-Saharan Africa and along with bilateral and multilateral trade cooperation for mutual economic growth through trade agreements aimed at easing restrictive policies, to facilitate movement of goods and services across borders and regions(73). This development is marred with the advent and marketing of western fast food and beverages including those high in sugar and fat content (74). Anecdotal data shows that such foods become popular especially among the middle-income earners, for whom they are considered relatively affordable, and are regarded as a symbol of status. It is not uncommon to see long queues in various fast-food outlets on promotion days marketed and popularized via social media, directly to people's phones and in traffic as shown in figure 4.4 and 4.5 below.

Figure 4.4 Use of social media to promote social networking for promotion of physical activity

Source: Facebook, personal page (2024)

In rural and urban Kenya, traditional food markets are quickly being replaced by supermarkets which in addition to groceries stock processed food and drinks high in sugar and fat and low in fibre contributing to nutrition transition from healthier traditional food (75). Other study studies showed that rural-to-urban migrant women were more prone to obesity associated with increase in wealth in the urban settings (76). In a study in urban slums of Nairobi, more than a third of both male and female preferred being obese (68). This preference is likely influenced by cultural perceptions that associate a larger body size with wealth, health, and social status. The study remarked that such attitudes may hinder efforts to promote healthy weight management in these communities, highlighting the need for culturally sensitive health education initiatives (56).

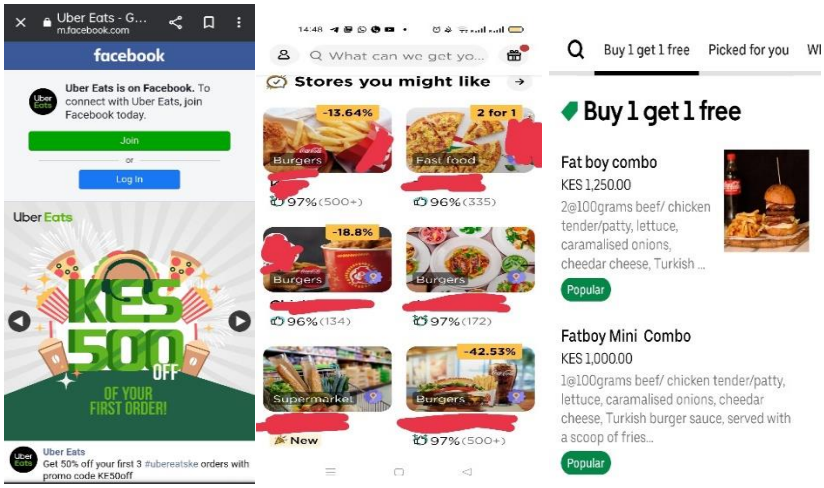

Figure 4.5 Use of social media to advertise and promote unhealthy food

Source: Uber eats Kenya (2024)(77)

Wealth and obesity demonstrate a complex relationship in Kenya's socioeconomic landscape. Studies have shown that increasing economic empowerment often correlates with higher obesity rates, particularly in urban areas. This pattern is attributed to greater access to processed foods, more sedentary lifestyles, and changing dietary preferences that accompany improved economic status (72). Research indicates that middle and upper-income households show significantly higher rates of obesity compared to lower-income groups, particularly among women in formal employment and business owners.

4.2 Policy analysis: Analysis of policy frameworks addressing obesity

The political environment plays a crucial role in shaping obesity patterns through policy decisions and resource allocation. Local and national political priorities influence food systems, urban planning, and health promotion initiatives (72). Political decisions regarding food subsidies, agricultural policies, and urban development directly impact food availability and physical activity opportunities. Additionally, the level of political commitment to addressing obesity as a public health concern affects the resources allocated to prevention and treatment programs, as well as the implementation of relevant policies.

The policy environment regarding obesity in Kenya exists within a broader framework of public health governance. Current policies focus primarily on health system responses rather than comprehensive prevention strategies (73).

While there are existing policies addressing nutrition and physical activity, implementation remains fragmented across different government sectors. The lack of coordinated policy implementation approaches between health, education, agriculture, urban planning, public communication and other social departments creates gaps in effective obesity prevention and control measures. Some of the policy instruments that addressed obesity in the broader public health governance included the national legislations, policies, strategies, plans and coordination mechanisms as highlighted below.

4.2.1 The Constitution of Kenya 2010

In its, preamble, the Constitution(21) commits to nurturing and protecting the well-being of individuals, family, communities, and nation at large. In Bill of Rights, the constitutional provides for the enjoyment of economic and social rights under Article 29 provides for the right to freedom and security, crucial in undertaking physical activity. Article 43 1 (a-f) entrenches the right of access to the highest attainable standard of health, food of acceptable quality and quality social security and education.

Article 46 provides consumers the right to goods and services of reasonable quality with information necessary to gain full benefit from goods and services and the protection of health. All these provisions are particularly crucial for promotion of health and healthy lifestyles as well as health service delivery. The freedom of media and right to access to access information and freedom to associate in Articles 34, 35 and 36 provided mechanisms for undertaking health education, social mobilization and facilitation of peer and social support on obesity prevention. Article 209 empowers the national government to impose value-added tax, customs and import tax as well as excise tax which are crucial and cost-effective for obesity and for mobilizing resources for health.

4.2.2 The Vision 2030

The Vision 2030(25) is the blueprint long-term planning strategy of the country for socio-economic development. It was drawn in 2007 with the aim of transforming Kenya into a globally competitive, prosperous, and newly industrialized middle-income country providing a high quality of life to its citizens in a clean and secure environment by 2030. The had a three-pillar approach to achieving its objectives the first being the economic pillar aimed at improving the economic status of all Kenyans. This was envisioned to increase performance in agriculture sector through innovative, commercially oriented modernized agriculture fisheries and livestock production. Other actions include improving wholesale and retail sale trade sector to facilitate globalized trading as well as reducing barriers to trade. Second was the Political pillar aimed at realizing a political democratic system which respects the rule of law and protects the rights and freedoms of the citizens. It further aimed to strengthen transparency and accountability frameworks as well as strengthening the Parliamentary legislative capacity and oversight role. Lastly, the social pillar sought to build a just and cohesive society with social equity in a clean and safe environment. Further the government purposed to improve the quality of education, training, and research to enhance individual well-being of Kenyans. The vision prioritized communicable diseases and curative services, with minimal interventions for NCDs.

The Vision was implemented through successive five-year Medium-Term Plans (MTPs) which is currently on its fourth cycle (MTP IV) for the period 2023-2027. The MPT has incorporated the targets under the Sustainable Development Goals (SDGs) which had prioritized NCDs and their risk factors, including obesity. The MTPs were aligned with the election cycles and incorporated, in the interim, the priorities and interventions set out ruling parties in their manifestos towards achieving the vision.

4.2.3 Bottom-up Transformational Economic Agenda (BETA)

The current Kenya Kwanza government manifesto summarised as the Bottom-up Economic Transformation Agenda (BETA)(30) whose objectives have been entrenched in the MTPIV. The BETA had five key pillars aimed at promoting Agriculture and food security; Micro, Small and Medium Entreprises (MSMEs); Affordable Housing, Digital and creative economy; and healthcare. Under agriculture, the manifesto aimed at promoting increased food security within the country to facilitate access and affordability of adequate food of high quality. The MSMEs pillar was aimed at increasing trade opportunities, facilitating financing and business development support particularly for young people. The digital creation economy sought to promote access to digital superhighway and enhance creativity and utilization of technology. Under the healthcare pillar, the main focus is rolling out the Universal Health Coverage (UHC) to provide quality, equitable and affordable health services to improve health outcomes while protecting the people from catastrophic health expenditure. To achieve UHC, the government instituted the Social Health Authority (SHA) which was in the process of registering the public for social health insurance (SHI) to be funded through the Social Health Insurance (SHI) and funded by new compulsory Social Health Insurance Fund.

4.2.4 The Health Act, 2017

The Health Act(22) is the legal framework for the implementation of the constitutional provision of the right to the highest attainable health standard. It was structure health services to ensure there was a continuum of care at all levels from prevention, promotion, curate and rehabilitative services. Further, it anchored the role of the government to facilitate Kenyans to access health service physically and financially. About Obesity, the Act recognized and prioritized the prevention and control of modifiable risk factors for NCDs including promotion of physical activity and supply of safe food. The Act focused more on curative services.

4.2.5 Primary Health Care Act

In 2023, Kenya enacted, and is in the process of operationalizing, the Primary Health Care Act(23) to facilitate access to universal health coverage to ensure that all persons receive the health services they need as individual and community without suffering financial hardship. The health services of at primary care level focused on preventive, promotive and rehabilitative services and curative for minor illnesses. The set outlined services included nutrition education and creation of awareness on the prevention and management of NCDs. In Article 3 (b) required that the services provide be evidence-based, socially acceptable, universally available and promoting self-agency. strengthen the health services from community to level three facilities. This was further supported at the subnational level by the County Governments Act

no. 17 of 2012 in Article 87 emphasising public participation and 95 on public awareness, including on health matters, through an array of media.

4.2.6 The Social Health Insurance Act

The Social Health Insurance Act (SHIA) (24) was also enacted in in 2024 to facilitate the achievement of Universal Health Coverage and was in the infant stages of implementation. Under the SHIA, a Social Health Authority (SHA) was established to manage the insurance. Additionally, the SHIA established three health funds namely; The Primary Health Care Fund (PHCF) to finance primary care services; the Social Health Insurance Fund (SHIF) to ensure that all residents of Kenya have a mandatory health insurance; and lastly the Emergency, Chronic and Critical-care Fund (EMCCF) to ensure that all people have access to emergency care and to cushion Kenyans from catastrophic expenditures from chronic illnesses. To access the EMCCF, one must have exhausted their cover under the SHIF. The health benefits packages under these funds(78) covered preventive, promotive, curative and rehabilitative health services. In particular, the PHCF and screening for obesity and NCDs. However, the package explicitly excluded drug therapy for weight management, nutritional supplements, liposuction and lipoplasty which could be beneficial in the management of obesity. There was no evidence of the EMCCF being in operation.

4.2.7 The National Health Policy, 2014-2030

The National Health Policy 2014-2030(26) provides a comprehensive framework with significant implications for obesity prevention and control (75). Four of its five main objectives directly support obesity prevention efforts: halting and reversing rising trends of non-communicable conditions, reducing the burden of violence and injuries, providing essential healthcare, and minimizing exposure to health risk factors. The fifth objective focuses on strengthening collaboration with private and other health-related sectors, creating a multi-sectoral approach to health challenges (31). The policy emphasizes the importance of preventive healthcare and health promotion strategies in addressing non-communicable diseases, including obesity. The policy advocates for evidence-based interventions, regular monitoring and evaluation of health outcomes, and the development of sustainable financing mechanisms to support healthcare initiatives. Strengthening health systems at both national and county levels was emphasized.

4.2.6 National Food Security and Nutrition Policy 2012

The National Food Security and Nutrition Policy (NFSNP) stemmed from sessional paper No.1 of 1986(79) on Economic Management for renewed growth which prioritized agriculture for economic purposes and to ensure adequate food availability in the country. This continued to

be the main of aim of the NFSNP with additional objective to address the complex relationship between dietary practices and health outcomes including Obesity and NCDs. Kenya's approach to nutrition policy demonstrates increasing recognition of the dual burden of malnutrition, including both undernutrition and obesity. The policy framework, emphasized the need to address overconsumption of high-caloric foods, excessive fats, and high sugar content. It promoted balanced nutrition through evidence-based dietary guidelines and advocates for increased public awareness about healthy eating habits and physical activity.

4.2.7 Nutrition Action Plan 2018-2025

This was the first action plan in the country for the implementation of Nutrition Policy the focusing on impact of nutrition on health across the life course. Besides dietary interventions, the plan recognized physical activity as crucial to maintain and sustain optimum energy balance, but the plan did not provide guidance on quality and quantity of physical activity required for different population groups. Notably, key result area five was dedicated to diet related NCDs with the rationale that diet and physical activity while the strategies in this section sought to strengthen clinical nutrition services for obesity rather than prevention.

Being the national reference document for nutrient and diet interventions, the key proposed actions were oriented towards strengthening NCDs management rather than specifically for targeting improvement of dietary and physical activity measures and building capacity for clinical nutrition. Advocacy communication and social mobilization through media and was targeted to public awareness aimed at reducing consumption of unhealth food and raising demand for physical activity. There was no strategy to undertake advocacy for policy development or implementation. Despite highlighting the best buys for tackling obesity and minimizing obesogenic environment; through fiscal measures such as taxation of food high in sugar content, restriction of marketing of unhealthy foods and beverages and implementation of labelling to create awareness and facilitate consumers to choose; promotion of built and natural environments to promote physical activity. The action plan set generic measures targeting obesity problem and diet related NCDs problems in Kenya. However, the measures did not comprehensively include actions for implementation of the proven cost-effective measure such as fiscal measures, regulation of labelling and content.

4.2.8 National Nutrient Profile Model (KNPM), 2024

The KNPM was developed by a team of nutrition experts, guided by the WHO African Region Nutrient Profile Model(80), and was aimed at providing guidance on how to address the consumption of unhealthy food and beverages in regard to nutrients of concern namely: food high in sugars, fat (saturated and total fat) and sodium. It provided recommended thresholds

for these nutrients, guidelines for Front-of-Pack labelling for food, restrictions of marketing of unhealthy food and beverage to children; consumer awareness and education; fiscal measures. The KNPM did not provide a roadmap for implementation but was only intended a tool to guide the development of food and beverage related policies, guidelines and standards across all sectors. The nutrient profile was developed based on the WHO African regional Model with national context with considerations on available, and cultural and consumption patterns on food and beverages sampled locally across all the fourth seven counties in the country as well as with cultural considerations regards to food practices and consumption patterns(81).

4.2.9 National Strategic Plan for the Prevention and Control of Non-communicable Diseases 2021/22-2025/26

The strategy was informed by the rising burden of NCDs and their risk factors including obesity. The strategy was informed by the gaps in the previous strategy including limited resources for implementation, impact of disruption of health services by the covid pandemic. It was also informed by the global commitments and targets for NCDs prevention and control including the experiences from the previous strategy.

The strategy was guided by key principles of equity, universal coverage, human rights and gender-based approach, life course and people-centred approach, multisectoral approach and evidence-based approach with a focus on primary healthcare. The strategy covered priority NCDs that were of concern to Kenya such as Cardiovascular diseases, Cancer, Chronic Obstructive airway diseases, renal diseases, injuries, haemoglobinopathies, skin conditions as well as oral health. In addition, the risk factors for NCDs prioritized included unhealthy diets and physical inactivity. were also covered.

The key priority areas for investment were set in to five pillars(82) encompassing multisectoral action and governance; minimizing exposure to risk factors; strengthening health systems response to NCDs; advocacy, communication and social mobilization; surveillance, monitoring, evaluation and research. Under the second pillar, the key strategy relevant for obesity was the strengthening of legislative and regulatory frameworks to reduce obesity. In particular, the strategy sought to establish regulatory and fiscal measures to promote health diets including to regulate trans fats, sugar sweetened beverages, marketing of unhealthy foods and drinks to children, and implementation of Front-of-Pack labelling. The second strategy on public awareness on healthy diet and physical activity as well as integration of NCD risk factors in children's education and school curriculum; and in community strategies. The third strategy was to incorporate risk assessment tools for NCDs at community level.

Under the third pillar, the strategy sought to strengthen health systems response to address NCDs and associated risk factors through capacity building of health workforce, ring-fencing finances for NCDs commodities but does not mention how the finances will be mobilized. Further, entrench wellness, screening and management programmes in community settings; and integrate NCDs prevention and control into the Universal health coverage intervention while securing commodities for NCDs management and utilization of technology in the management of NCDs. Additionally, the strategy planned to support the establishment of peer support groups for people living with NCDs.

Under the fourth pillar on ACSM, interventions for county level advocacy for integration of NCDs in action plans, public awareness and community empowerment were the areas of focus. In the fifth pillar, the strategy sought to strengthen research and surveillance on NCDs through setting research agenda; development of tools; monitoring, review and evaluation of the strategy and mobilization of funding for research. The strategy recognized obesity as a rising burden and had prioritized it as one of the modifiable risk factors.

4.2.10 Kenya National School Health Policy (KNSHP) 2018

This KNSHP(83) was co-developed through collaboration of ministry of education and Ministry of Health with the goal of providing learners with a safe, healthy and friendly learning environment. It had nine key components including on Nutrition, Disease prevention, values and life skills and school infrastructure. The Nutrition component focused on ensuring that leaners had adequate food to eat with attention to micro and macro nutrients. Under the Diseases Prevention and control component, the policy promoted lifestyle interventions for awareness and the prevention of modifiable risk factors for NCDs. The interventions covered by the policy included integration of health education, awareness and resilience building on healthy diet, physical and effects of substance for leaners. Additionally, it encouraged packing of healthy food and beverages for children by parents and discouraged marketing of unhealthy food and beverages in school environs. Integration of prevention screening of national status for children was also provided for as well as routine and annual screening after enrolment. The school infrastructure provisions the policy required that schools provide spaces for physical activities and for demonstration on food production and preparation. School health action days were also encouraged. The policy sought to strengthen the capacity of teachers and health workers to implement the policy. Under coordination mechanism, nine different groups were established to facilitate implementation at national, county and community level while

requiring that communities living near the schools participate in management and mobilization of resources in support of local schools.

4.2.11 National Food Standards

The national food standards in Kenya operate within both local and regional frameworks. These standards align with international guidelines, including Codex Alimentarius and East African Community (EAC) standards, providing comprehensive regulations for food safety and quality (76). The standards address food labelling requirements, nutritional content specifications, and marketing restrictions, particularly for processed foods. Implementation of these standards aims to promote healthier food choices and protect consumers from misleading food marketing practices.

4.3 Strategy and Policy Development

The policies have a common trend in the leadership, agenda setting, rationale, structure and process. All policies reviewed were driven by the country's underlying health burden which recognized obesity an emerging and growing problem in Kenya, with the potential severe health, social and economic consequences. The policies were anchored in existing legal and political frameworks. They were guided by scientifically sound regional and global commitments and frameworks. However, the most cost-effective interventions for obesity were not entrenched in the national policies, for example fiscal measure to reduce consumption of unhealthy diets.

Further, the policies were informed by lessons learnt from preceding experiences in related policies, strategies and plans. Majority of the policies considered national socio-economic and geographic factors were considered more for policies targeting undernutrition and nutrient specific deficiencies and less for effective obesity interventions. Most of the policy documents were found to be repetitive and there was overlap and duplication between different documents, making them voluminous. Although there was involvement of key sectors in the development of various obesity-related policies, they were spearhead by different sectors, in particular health, agriculture and education. Hence the policies, although similar were not the same for all sectors and each sector had established different coordination mechanisms.

4.4 Policy enactment of obesity policies

The WHO GSDPA recommended that leadership and coordination of partnership for the prevention and control of obesity be provided by the Ministry of the Health. This was found to be the case in Kenya despite other sectors being in control of a larger context in which obesity was a part of. For example, the NFSNP was domiciled in the Ministry of Agriculture and the

NSHP co-led with the Ministry of Health while the NSHP made clear that the Ministry of Health would provide leadership on health matters while that of Education would lead on matters related to learners and learning institutions. Both National and county governments were found to participate in the process endorsement of the policies. The policy documents were officially signed by the Cabinet Secretaries and Principals secretaries, and in some cases jointly by crucial ministries. In the case of technical documents such as guidelines and plans, the endorsement was also done by technical leads such as the Director General for Health, Director of Education or Head of the programme. Additionally, the policies targeting vulnerable regions of the country were incorporated the endorsement of relevant sectors such as the ministry responsible for Arid and Semi-arid area (ASAL) in the case of the NFSNP. The role of Labour, Social services, sports, transport, planning, infrastructure, trade and the Judiciary did not feature prominently across all the policies despite the key role they play on obesity management.

4.5 Policy implementation

Kenya's health system operated under a devolved structure where the national government maintains oversight of obesity and other health services and was responsible for the development of policy standards and guidelines, while the county government was responsible for implementation and management of Human resource (74). There was no evidence of translation of National policies and plans to county level deliverables and reporting back to national government to facilitate monitoring of implementation. Each level of government was responsible for mobilizing resources for its functions and priorities. The autonomy of the two levels of government depended on goodwill for cooperation to translate policy into action. The Council of Governors facilitates inter-county coordination and served as a crucial link between national and county governments.

The national government provided the largest share of public health financing through annual budgetary allocations, while county governments contribute through their health budgets (74). Additional funding comes from development partners, private insurance schemes, and out-of-pocket payments. However, financing for obesity prevention and control remains limited, with most resources directed toward infectious diseases and maternal health services. The recent Social Health Insurance was in the process of being rolled out. The SHI provided limited coverage for obesity-related conditions and treatments.

Regarding training of human resource for health, the government controls 46% of all health training facilities, providing an opportunity to strengthen integration of obesity prevention and control in the curriculum of health workers. The other 24.3% and 46.4% of health care training

institutions are controlled by faith-based organizations and private- (for-profit) sector respectively. The distribution of health workforce per 10,000 population was as follows: Nurses 8.3, doctors 1.5, dentists 0.2, clinical officers 2.7, medical laboratory staff 2.2 and pharmacy staff 1.7. The distribution for all cadres was below the WHO recommendations. Majority of the health training institutions as well as the health work force are found in the national capital and other major urban areas (44). This could be associated with the low utilization of health facilities given that the national average bed density was 13.3 below the target of 25 with an in-patient bed capacity rate of 46% below the target of 80%. Utilization was also low with sub-optimal delivery at community and primary care facility level which was attributed to cots of travel to the distant facilities in rural areas in addition to understaffing and poor attitude of health workers at these levels.

In addition, public primary health care facilities continued to charge user fees despite government policy to abolish these fees (45). It was apparent that the health service reports, and other literature focused mainly on nurses, clinical officers, doctors, pharmacists, and laboratory staff with little or no mention of other key staff who are crucial in obesity prevention, for example nutritionists and counsellors. Notably, the Nutritionist and Dieticians Act was enacted in 2007 to regulate the training, registration and licencing of this cadre(84). Thereafter, they were mandated to participate in the review of claims on food, food and nutrition supplements; and development of designs for nutrition awareness by the Health Act(22). The role of this cadre could be strengthened by integrating other aspects of obesity prevention to complement their role. The Health system in Kenya was found to be unprepared to manage NCDs and the related risk factors(45) including among health workers considering that 63% were found to be obese at a referral hospital(85). In another county referral hospital, weight screening focused on weight measurement in pregnancy, at birth, infancy, and childhood. Adult weight measurement was only done for inpatients at admission(86). It was different for the education sector, considering that education was not a devolved function, the implementation plan stated and clearly cascaded implementation from national to community level. Financing for the roles and responsibilities of the National data on translation of implementation of the obesity policies at county level.

4.6 Stakeholder education and engagement

Stakeholder participation in Kenya was entrenched in various laws including the Statutory Instruments act no. 13 of 2013 Part II (5), which sets out the requirement for stakeholder engagement and public participation in policy and regulation making(87). Further, the County Governments Act no. 17 of 2013 in Part VII and IX(88) emphasized engagement of

stakeholders, in particular public participation in decision making as well as creation of awareness among the public on all matters including health. All the policies analysed recognized and involved stakeholder in their processes. The stakeholders were drawn from Government Ministries and agencies including Ministry of Health, Agriculture, Education were observed to take the centre stage in the mandate and leadership role. Other sectors crucial for nutrition, obesity and physical activity such as Ministries of transport, infrastructure, water, sports and social services. Although the roles, responsibilities and coordination of stakeholders were vague in the health sector documents, it was clearly outline in the health-related documents form the education sector. Stakeholders were evidently engaged during the development and review of policies as indicated in the preamble of the documents. However, there was no evidence to support their participation in implementation, resource mobilization. Some organizations were found to be active in advocating for the prioritization of NCDs and related risk factors but were more focused on risk factors but no evidence of policies. The PHC Act further provided for stakeholders, including community members were engaged through Community Units and Community Health Committees(89). The PHC networks at sub county level composed of health care providers and development partners but did not include community members nor people with lived experience. The county level advisory committees were only composed of senior government officials. Linkages between community Units to county level were not found in the Act. Notably, Obesity prevention and control actions were coordinated from the Ministry of Health which hosts the NCDs Inter-agency Coordinating Committee (NCD-ICC). The NCD-ICC is mandated to support the government in the implementation of global, regional and national actions towards the prevention and control of NCDs. The NCD-ICC was chaired by the Director General for Health and co-chaired by a rotational nominee from non-governmental agencies. The NCDs-ICC worked through Technical Working Groups (TWG) which drove various agenda under the NCDs. The Department of NCDs was the Secretariat with heads of divisions being the secretaries to the respective TWG. The NCD-ICC and therefore the TWGS composed of stakeholders drawn from relevant government sectors and agencies, civil society, patient support groups, private sectors, academia and experts. Obesity and Nutrition were addressed under the TWG on risk factors. Considering that some of the drivers and interventions of NCDs have a commercial nature, it was found that members of the ICC were required to declare any conflict of interest (90). Notably, the KNAP sought to establish a separate ICC for Nutrition. Other numerous multilevel coordination mechanisms existed such as the Food and Nutrition Security council, Food Security Secretariat, Food and Nutrition Steering Committee and secretariat, food and

Nutrition Security Stakeholders Technical Committees and similar structure at the subnational levels.

4.7 Evaluation

The development of new policies was guided by national situation, regional and global circumstances and decisions while review of expired strategic and action plans reported utilization of lessons learnt from previous versions. However, except for the NCDs strategy, although poorly explained, there evidence found on evaluation of outcome and impact of policies. Reportedly, the performance under the previous NCDs strategy the overall was poor in particular regarding monitoring and evaluation systems for NCDs. Overall, in the previous strategy for the period 2017-2022, the objective to prioritize NCDs at national and county levels was only achieved at 50% of the set target and the same for strengthening NCDs -legislation and policies. Promotion of healthy lifestyle rated at 13.8% achievement while implementation of Advocacy, communication and social mobilization estimated to be 68%. Monitoring and evaluation systems for NCDs stood at 11.1% with NCD related research was at 15%. Further that integration of NCDs into other sectors was rated as achieving 16.7% poor. Despite the incorporation of the Monitoring, Evaluation, Accountability and Learning frameworks in the key policies, no evidence of implementation such as monitoring data or update reports on implementation of current policies, strategies and plans that were found during the study period. Notably, there were surveys undertaken periodically such as the STEPS Survey, School Health Survey, Nutrition Survey and Demographic Health Survey, which could use to monitor trends, there were no direct assessment of outcome or impact of policies undertaken.

Chapter 5: Discussion, Conclusions and Recommendations and Study Limitations

5.1 Discussion

The main objective of the study was to analyse existing policies on the prevention and control of obesity in Kenya, with the aim to identify gaps and alignments with global best practices and in providing insights to policy makers for improving of policy development that would strengthen or combat the rising burden of obesity and its associated Non-communicable Diseases (NCDs).

5.1.1 Discussion of key findings

5.1.1.1 Burden of Obesity in Kenya

The prevalence of obesity in Kenya was found to be about 8.9%(17) is expected to rise rapidly as estimated the annual rate of increase in high BMI in the country would to be 5.3% for children and 6.23% for adults between 2020 and 2035. Further, by the same year, the prevalence of obesity is expected to rise to 8.4% among children aged 5 to 9 years, 5.5% among those aged 10 to 19 years, and 10% among adults(51) and the same is expected in the countries around the region.

5.1.1.2 Lifestyle Factors: Diet, physical Activity, Tobacco and Alcohol use

The study underscores some key lifestyle factors driving obesity in Kenya. The country is undergoing nutrition and lifestyle transition driven by globalization, urbanization, and economic development. Studies have shown that energy dense diet rich in sugars processed foods and fats are consumed more in urban areas as they are more accessible and affordable(91). Additionally, sedentary lifestyles are prevalent as a result of advancement in age(92), technology and urban transport systems, thereby decreasing opportunities for physical activity(93) and has been documented in similar settings like Nigeria (94). The shift towards westernized diets and behavioural lifestyle contributing to significant rise in obesity such as in similar settings in Tanzania(95) and in Nigeria(96) further influenced by the current status of food security(97).

5.1.1.3 Socio-Ecological Determinants of obesity

Secondly, the study found that some socio-ecological determinants gender role, built environments, educational level and socioeconomic status emerged as critical in shaping obesity risks. Women dwelling in urban settings, exhibit higher obesity prevalence, similar to findings reported in other African context like Ghana(98) and South Africa(65). Educational levels also influence health literacy, dietary choices and responsiveness to health messaging.

Built environments, unsafe neighbourhoods, poor infrastructure, combine with poor urban planning, significantly contribute to low physical activity, or cycling(92)

5.1.1.4 Policy Analysis: Analysis of policy frameworks addressing obesity

In Kenya, the legislative environment provided robust opportunities for prevention and control of obesity including the Constitution, Health Act and the Primary Health Care Act. However, there were no laws restricting promotion of unhealthy diets., the country has adopted several policies and strategies with components relevant to obesity prevention such as the National Health Policy (2014-2030), the National Food and Nutrition Security policy (2012), and the Nutrition Action Plan (2018-2025) and the National Strategy for the prevention and Control of Noncommunicable (2021-2026) Disease. However, there was paucity of data on the level of implementation, effectiveness and impact of these policies. Additionally, the policies were found to be voluminous and repetitive and could be improved to optimize on cost effective interventions and utilization by the targeted audience.

Kenya recently developed a National Nutrition Profile Model 2024(81), to provide evidence - based domestic basis for food labelling and regulation of marketing to children. However, there was no evidence of a mandatory regulation for implementation. In contrast, countries have adopted strong regulatory approaches with sugar taxes in Mexico(99) mandatory food labelling and junk food marketing restrictions these regulations has shown comprehensive approaches yielding greater policy impact(100)

5.1.1.5 Implementation Challenges and Stakeholder Engagement

Despite the acknowledgement of the burden of NCDs by the Kenya Vision 2023 and Bottom-Up Economic Transformation Agenda, there was inadequate data to measure implementation and impact. Many obesity-related policies lacked clarity on roles, budget or structures on accountability. Furthermore, the engagement with non-state actors such as Civil Society organizations, Schools, religious institutions, and local communities is weak. Thes findings resonates with previous critiques of NCDs policy implementation in Kenya, that cite a lack in multisectoral governance, insufficient financing, and lack of clear accountability structures(101)

5.1.1.6 Monitoring and Evaluation Challenges

The study also revealed that, existing NCDs policies and programs lack comprehensive monitoring and evaluation (M&E) systems. This hinder availability of timely data collection, learning, and adaptation as well as knowledge sharing. Most national documents emphasize on output such as general nutrition education campaign rather than obesity prevalence changes. Even though the National Strategic Plan for NCDs 2021/22-2025/26 highlights goals and

indicators, however, there was limited data or funding for regular progress assessment This identified gap hinders adaptive learning and undermines accountability. Moreover, improvement in policy design and implementation can be driven by formidable evaluation mechanisms(102).

5.1.2 Limitations of the study

The study was interesting and informative. However, it was time consuming as it required reading through an articles and documents to find relevant information. There was paucity of peer reviewed publications on some of the key aspects of the study particularly on dietary habits among Kenyan cultural and ethnic groups and published research on evaluating policy outcomes and impact in Kenya and comparable jurisdictions. The study was limited to the Kenyan context and may not be fully generalizable to other countries, even within Africa, highlighting the need for further cross-country studies for implementation comparison; especially that the region works together to develop guiding policies. The focus on English-language literature may have excluded insights from local languages and indigenous knowledge sources. The reliance on published studies introduced a potential publication bias, as successful outcomes are more likely to be reported than challenges. Lastly, the study was limited to literature from the past ten years hence could have eliminated policy actions prior to that period. Primary data collection from key stakeholder would have strengthened the study but was limited by resources

5.2 Conclusion

The study demonstrated Obesity as a major public health problem in Kenya, driven by unhealthy lifestyle practices and socio-ecological determinants. The country had made some progress in implementing the globally recommended policy interventions but obesity continued to rise. Notably, health was interventions for obesity were prioritized in the national legal framework including in the constitution and Health legislation. Although there was more needed to address obesity across sectors, only the agriculture and education played a key role in addressing obesity while the infrastructure, planning, transport and social sectors were not prominent.

The continued rise in obesity poses a big threat to the progress made in the country to reduce morbidity. While there are policies in place, targeted to driving factors of obesity, availability to the entire population and well-structured implementation frameworks are lagging behind. It is therefore crucial for Kenya to urgently consider raising the priority for obesity prevention using a whole of society approach due the complexity of the matter. It is critical for Kenya to adopt a more robust, coordinated approach to tackle the growing obesity epidemic. It is

important for Kenya to design targeted, culturally appropriate and population-based policy interventions that are cost effective. These include a national obesity policy that incorporates actionable plans, adequate resource allocation, and a robust monitoring framework to guide all actors in obesity prevention.

To address the complex and multifaceted interventions for obesity, a multi-sectoral collaboration is needed. Involving stakeholders from key sectors is pivotal in implementing effective, context-specific strategies and for resource mobilization. These key sectors include education, agriculture, national treasury, planning, the private sector, academia, and civil society. Such collaboration can help in ensuring a whole-of-government and whole-of-society approach, accompanied by resource mobilization and integration of obesity interventions at all levels. This way, the Kenyan society will be mobilized to promote healthier behaviours through school-based physical activity programs, the regulation of food production and marketing, and the adoption of traditional diets and lifestyles, public support for strong fiscal policies and resource mobilization.

Strengthening enforcement mechanisms, including the taxation of sugar-sweetened beverages and monitoring compliance with marketing regulations. The funds from the taxes should be ring-fenced for health financing to be beneficial in addressing obesity. Additionally, the study findings can inform the Ministry of Health and allied agencies in crafting policies or revising existing frameworks to address obesity comprehensively.

Overall, this research highlights the urgent need for Kenya to prioritize obesity prevention and control, leveraging evidence-based strategies to protect public health and reduce the socioeconomic burden of obesity.

5.3 Recommendations

Based on the findings of the study the following recommendations were made:

1. Review national policies and plans to create supportive physical and regulatory environment for healthy choices. The cost-effective areas to target include fiscal policies on price and marketing of unhealthy food and beverages; and urban planning to increase engagement in physical activity such as preservation and allocation of spaces and for recreation and utilization of non-motorised transport. These would make healthy choices for prevention of obesity easier to make and sustainable.

2. Strengthen translation of policies to action and collaboration with stakeholders to monitor and evaluate policies.

3. Design targeted, culturally appropriate and with demonstrable cost-effective grass-root level interventions and use local structure for social mobilization, including optimizing on the widespread digitization.

4. Re-orientate health systems to be responsive to the nutritional and epidemiological trends. Integrate obesity prevention in training of health workers and allocating funds for creating environmental that promoted adoption of healthy lifestyles and screening at all levels and settings such as schools, work places and social settings.

5. Kenya needs to establish a framework for undertaking research and surveillance to provide evidence for decision making and policy development. Aspects of related to determinants, health services and impact of policies of obesity prevention will be helpful for future policy designs.

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