

Case Report

Obesity: Epidemiology, Determinants, Health Consequences, and Policy Responses — A Narrative Review

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Abstract

Background: Obesity is a major and growing global public health challenge linked to multiple chronic diseases and substantial economic burden. **Objective:** This narrative review summarizes current epidemiology, determinants, major health consequences, and policy responses to obesity, with emphasis on evidence relevant to high-income countries including Germany. **Methods:** A focused narrative synthesis of landmark reports, population studies, and policy analyses was performed to highlight key trends and policy relevant findings. **Results:** Global adult obesity prevalence has risen substantially since 1990. Key determinants include obesogenic food environments, reduced physical activity, social determinants, and genetic susceptibility. Obesity increases risk for cardiometabolic diseases, some cancers, and reduced quality of life. Policy responses with evidence of impact include fiscal measures (e.g., SSB taxes), restrictions on marketing to children, front-of-pack labeling, urban design interventions, and comprehensive multisectoral strategies. **Conclusions:** Effective obesity prevention requires population-level policies alongside clinical interventions. Equity-focused implementation is essential to avoid widening disparities.

Keywords: Obesity; epidemiology; determinants; policy; health consequences; narrative review

Introduction

Obesity, defined by body mass index (BMI) thresholds in adults, has become a dominant global health concern. Rising prevalence has been documented across most regions, with especially large absolute burdens in high- and middle-income countries. This review outlines epidemiology, upstream determinants, clinical and societal consequences, and policy responses.

Epidemiology

Global estimates and large surveillance datasets show sustained increases in overweight and obesity over the past decades. Recent WHO and Global Burden of Disease analyses indicate that more than a billion adults worldwide may now be living with obesity, and age-standardized prevalence has risen substantially since 1990. Prevalence and trends vary by region, socioeconomic status, and sex.

Region	Illustrative adult obesity prevalence (%)	Source (representative)
Europe	23	WHO / GBD
North America	35	OECD / WHO
Asia	15	GBD / NCD-RisC
Africa	9	GBD
Oceania	28	WHO / GBD

Table 1: Selected illustrative obesity prevalence by region

Determinants of Obesity

Obesity is multifactorial. Key determinants include:

- Food environment: increased availability and marketing of energy-dense, nutrient-poor foods; large portion sizes.
- Physical activity: urban design, sedentary occupations, and transport modes reducing daily energy expenditure.
- Socioeconomic and social determinants: poverty, education, and food insecurity can paradoxically increase obesity risk in some contexts.
- Biological factors: genetics, early-life programming, and gut microbiota contribute to individual susceptibility.

Health Consequences

Obesity increases the risk of type 2 diabetes, ischemic heart disease, stroke, several cancers (e.g., endometrial, breast, colorectal), osteoarthritis, and reduced quality of life. Obesity-related conditions also contribute substantially to healthcare costs and reduced productivity.

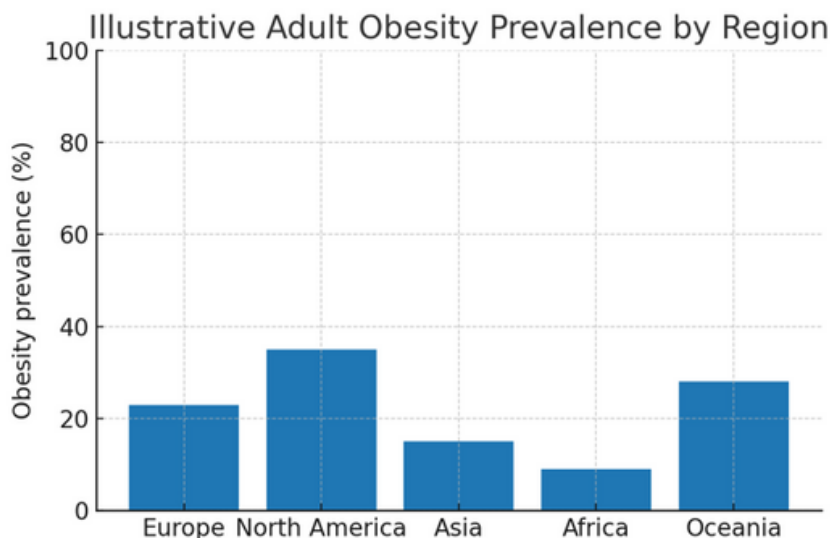


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Policy Responses

Policy options to prevent and reduce obesity operate across levels: individual, community, and systemic. Examples with evidence of impact include: - Fiscal measures (e.g., taxes on sugar- sweetened beverages) which reduce purchases and can improve health outcomes. – Marketing restrictions aimed at children, reducing exposure to unhealthy food advertising. - Front-of-pack labeling to improve consumer choices. - Urban design and active-transport infrastructure to increase physical activity. - School-based nutrition and physical activity programs. Comprehensive multisectoral strategies that combine these interventions tend to be more effective than single measures.

Implementation challenges and equity considerations

Challenges include industry opposition, political feasibility, variations in local contexts, and potential regressive financial effects if taxes are poorly designed. Equity considerations require measures to ensure low-income groups benefit from policies, such as revenue recycling, subsidies for healthy foods, and provision of community resources for physical activity.

Discussion

Obesity is driven by complex social, economic, and environmental factors. While clinical treatment is important for individuals, population-level prevention policies are essential to shift population distributions of BMI. Evidence supports a combination of regulatory, fiscal, and environmental strategies, implemented with attention to equity and local context.

Limitations

This narrative review is not systematic and uses illustrative figures/tables. It synthesizes representative evidence and policy options rather than providing exhaustive coverage.

Conclusions

Addressing obesity requires coordinated, multisectoral policy action alongside clinical care. Policies should be evaluated for effectiveness and equity impacts.

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