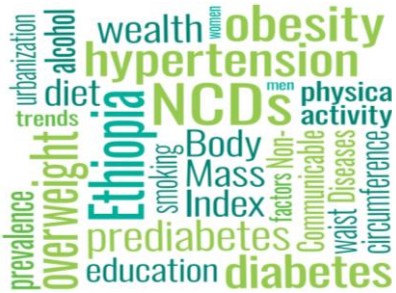
The Rise in Overweight, Obesity and Nutrition-Related Non-Communicable Diseases in Ethiopia: A Call for Action

THE PROBLEM

Non-communicable diseases (NCDs) account for 70% of all global deaths annually[1]. Moreover, rates of overweight/obesity, which are risk factors for nutrition related (NR-NCDs), have nearly tripled over the last half-century[2]. In Ethiopia, the prevalence of overweight, obesity, and associated NR-NCDs such as hypertension and diabetes have been increasing considerably in the past decade[3-5]. In 2019, cardio-vascular diseases were the second leading cause of death in Ethiopia[1].To reduce the rise in NR-NCDs and to identify priority interventions, it is important to understand the burden, and factors associated with NR-NCDs. This brief aims to describetrends and factors associated with overweight and obesity among Women of Reproductive Age (WRA) (15-49 years) in Ethiopia between 2000-2016. It also as-sesses the factors associated with hypertension and prediabetes/diabetes among males and females (15-69 years).

METHODOLOGY

We used data from 27,123 WRAincluded in the four rounds of the Ethiopia Demographic and Health Sur-vey (EDHS) (2000, 2005, 2011 and 2016) and data from the Ethiopia STEPwise approach to Surveillance (STEPS) Non-communicable Disease Risk Factors sur-vey (NCD STEPS)[5]. The NCD Steps survey was con-ducted in 2015 on a nationally representative sam-ple. A total of 5,823 females and 3,977 males were included in our analysis. To inform the data analysis plan, we identified factors associated with over-weight, obesity and NR-NCDs via a systematic review of the literature. These were then incorporated into causal path diagrams which were discussed and vali-dated through expert consultations.

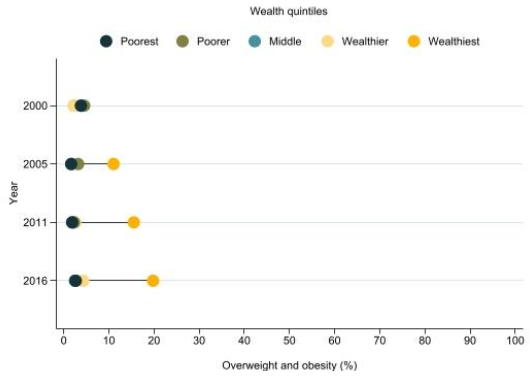


KEY FINDINGS

Overweight/obesity rates are rising and economic differences exist.

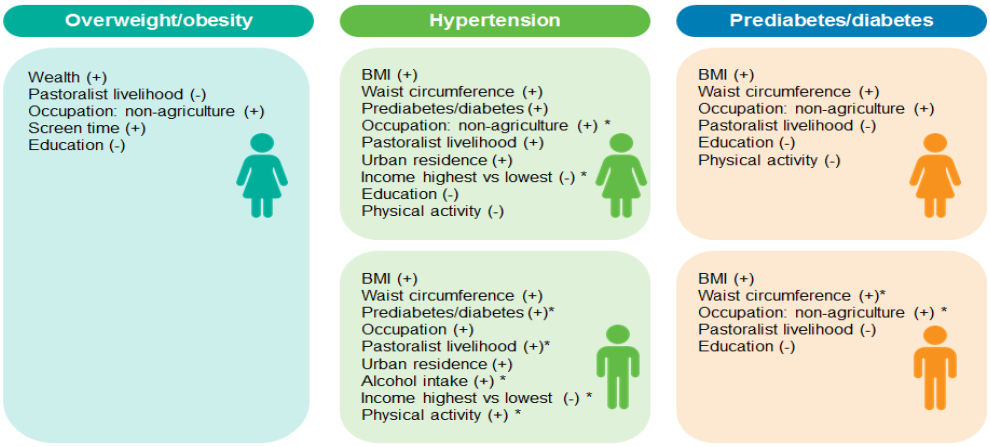
Nationally, the prevalence of overweight/obesity among WRA showed a 5% increase between 2000 and 2016. The increase was larger amongst urban WRA, increasing by 10%. The prevalence of hyper-tension and prediabetes/diabetes were 17% and 11%, respectively. The difference in the prevalence of overweight/obesity between the poorest and thewealthiest women increased from 1.5% in 2000 to 17% in 2016 **(Figure 1)**.

Figure 1: Change in overweight/obesity by wealth quintiles over the period 2000-2016



1. Institute for Health Metrics and Evaluation. 2019. Global Burden of Disease data visualizations 2019. <https://vizhub.healthdata.org/gbd-compare/>. Accessed 2021 April 14.
2. WHO. 2020. Obesity and overweight <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>. Accessed 2021 April 14.
3. Central Statistical Agency [Ethiopia] and ICF. Ethiopia demographic and health survey 2016. Addis Ababa, Ethiopia and Calverton, Maryland, USA: CSA and ICF; 2016.
4. Central Statistical Agency [Ethiopia] and ORC Macro. Ethiopia demographic and health survey 2000. Addis Ababa, Ethiopia and Calverton, Maryland, USA: CSA and ORC Macro; 2001.
5. Ethiopian Public Health Institute, Federal Ministry of Health, World Health Organization. Ethiopia STEPS report in risk factors for non-communicable diseases and prevalence of selected NCDs Addis Ababa,Ethiopi: Ethiopian Public Health Institute 2016.

Figure 2: Map of factors influencing overweight/obesity, hypertension and prediabetes/diabetes in both males and females living in Ethiopia.



*Weak strength of evidence, (+): positive association, (-): negative association

An increase in wealth drove the rise in overweight/obesity amongst women

A rise in wealth between 2000 and 2016 accounted for 62% of the increase in overweight/obesity in the WRA. Additional contributors to the rise in overweight/obesity for urban women were a greater engagement in more sedentary occupations and an increase in screen time.

Body size, physical activity and urban residence are factors that influence hypertension and prediabetes/diabetes

Both males and females with a higher body mass index and waist circumference were more likely to be hypertensive or present with prediabetes/diabetes (**Figure 2**). Urban residence was also a risk factor for hypertension and prediabetes/diabetes. In contrast, an increase in educational attainment resulted in a reduced likelihood of hypertension and prediabetes/diabetes in both males and females. Females who were more physically active were less likely to present with prediabetes/diabetes.

ACTIONS TO PREVENT AND CONTROL THE RISE IN OVERWEIGHT/OBESITY, HYPERTENSION AND PREDIABETES/DIABETES

ACTION 1: PROMOTE HEALTHY EATING AND PHYSICAL ACTIVITY; AND REDUCE SEDENTARY TIME.

Promotional activities should target urban residents to prevent further increases in overweight/obesity, and NR-NCDs. Healthy diets can be achieved through the implementation of new agricultural and food system policies to support healthy diets and specifically increase production of fruits and vegetables.Healthy physical activity behaviors can be achieved through the promotion of physical activity and improving the availability of facilities toengage inphysical activity.

ACTION 2: STRENGTHEN NCD SURVEILLANCE TO GENERATE EVIDENCE ON THE BURDEN OF NR-NCDS, RISK FACTORS, AND EFFECTIVE INTERVENTIONS.

High-quality and timely data are needed to inform the implementation of NR-NCDs programs and redesign some aspects of existing programs where necessary. Data from longitudinal, nationally representative dietary surveys are needed to enable the derivation of relevant indicators of the nutrition transition, and to assess their contribution to the burden of overweight, obesity, and NCD risk in Ethiopia.

Action 3: Incorporate NCD services in the primary health care system to prevent and control overweight and obesity, NCD-related services should be incorporated into the healthcare system to mitigate the effect of NR-NCDs and to prevent further increases.

FURTHER INFORMATION: The extended brief and the manuscript from which information for this summary was drawn from are available on the NIPN website (http://www.nipn.ephi.gov.et/).

AUTHORS: MeronGirma, Aregash Samuel, Rebecca Pradeilles, TirsitGenye, and Cornelia van Zyl