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**Introduction:** The double burden of malnutrition (over- and undernutrition) with a unique and unusual (non-classical) pattern of epidemiological transition [persistent high burden of maternal, childhood and infectious diseases despite the emerging burden of non-communicable diseases (NCDs)] is the growing and unprecedented challenge for sub-Saharan African (SSA) countries. However, the impact of this phenomenon on the burden of disease in SSA has not been investigated. This study assessed trends of mortality attributable to child and maternal undernutrition (CMU), overweight/obesity and dietary risks NCDs in SSA using data from the Global Burden of Disease (GBD) study 2015.

**Methods:** The GBD uses a comparative risk assessment (CRA) approach which is a causal web and hierarchy of risk factors that enables the quantification of risk factors and their impact on health at different levels. For each risk factor, a systematic review of data was used to compute the exposure level and the effect size. A Bayesian hierarchical meta-regression analysis was used to estimate the exposure level of the risk factors by age, sex, geography and year. The burden of all-cause mortality attributable to CMU, 14 dietary risk factors (eight diets, five nutrients, and fibre intake) and overweight/obesity was estimated.

**Results:** In 2015, CMU, overweight/obesity, and dietary risks of NCDs accounted for 826, 204 (95% uncertainty interval (UI) 737, 346-923, 789), 266, 768 (95% UI 189, 051-353, 096) and 558, 578 (95% UI 453, 433-680, 197) deaths, respectively, representing 10.3% (95% UI 9.1-11.6), 3.3% (95% UI 2.4-4.4) and 7.0% (95% UI 5.8-8.3) of all-cause mortality (crude proportion). The crude proportion of NCD mortality attributable to overweight/obesity and dietary risk factors was 9.8% (95% UI 7.0-12.8) and 20.5% (95% UI 17.3-24.3), respectively. In 2015, the age-standardized proportion of all-cause mortality was significantly higher for dietary risks of NCDs compared to overweight/obesity and CMU. Overall, the age-standardized proportion of deaths attributable to CMU, overweight/obesity and dietary risks was 12.2% (95% UI 10.2-14.7), 3.8% (95% UI 3.4-4.3) and 5.3% (95% UI 3.8-7.0), respectively. The age-standardized proportion of all-cause mortality attributable to CMU was higher in western SSA compared to other subregions.

While the age-standardized proportion of all-cause mortality accounted for by CMU decreased by 55.2% between 1990 and 2015 in SSA, it increased by 63.3% and 17.2% for overweight/obesity and dietary risks of NCDs, respectively (Fig 1). The age-standardized proportion of deaths attributable to CMU fell by more than half in most of the countries while it rose for overweight/obesity in all countries. The highest increase (140.7%) was recorded in the Western SSA, rising from 2.1% (95% UI 1.1-3.3) in 1990 to 5.0% (95% UI 3.5-6.7) in 2015.
Conclusions: The increasing burden of diet- and obesity-related diseases and the reduction of mortality attributable to CMU indicate that SSA is undergoing a rapid nutritional transition. To tackle the impact in SSA, interventions and international development agendas should also target dietary risks associated with NCDs and overweight/obesity.