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Short Commentary

Obesity, Socioeconomic Transitions, and the Evolving Social Gradient of Non-Communicable Diseases in Low- and Middle-Income Countries

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Non-communicable diseases (NCDs) are now the leading cause of premature mortality in low- and middle-income countries (LMICs), accounting for more than 80% of early NCD deaths worldwide. As LMICs undergo rapid demographic, nutritional, and epidemiological transitions, obesity has emerged as a central driver of cardiometabolic risk—particularly among women. Although NCDs have long been characterised as "diseases of affluence" in developing country settings, accumulating evidence suggests that this social gradient is weakening. New longitudinal evidence from India provides timely insights into how rising obesity may be reshaping the distribution of NCD risk across socioeconomic groups [1].

Using two waves of the nationally representative panel data from the India Human Development Survey (IHDS) 2004-05 & 2011-12, which followed more than 24,000 women of reproductive age over seven years, Barik(2025) assessed the risk of developing non-communicable disease (NCDs) like hypertension, diabetes, or heart disease among the overweight/obese women. The study demonstrates that overweight and obesity significantly increase the likelihood of subsequent NCD onset, independent of age, education, caste, and household economic status. Crucially, the analysis shows that the rich–poor gap in NCD risk narrows sharply once women become overweight or obese, indicating that excess body weight acts as a powerful leveller of disease risk across socio-economic strata.

This finding resonates with emerging evidence from other LMICs. In Bangladesh, analyses of Demographic and Health Survey data have documented rapid increases in overweight and obesity among urban women across both wealthy and poorer households. While NCD prevalence remains higher among richer women, obesity-related metabolic risk factors—such as hypertension and raised blood glucose—are increasingly observed among women from lower wealth quintiles, particularly in urban settings [2]. Studies from Bangladesh suggest that once high BMI is established, socioeconomic advantage offers limited protection against cardiometabolic risk, mirroring the convergence observed in India.

Similar patterns are evident across sub-Saharan Africa, where obesity prevalence—especially among women—has risen sharply over the past two decades. In countries such as Ghana, South Africa, and Kenya, obesity is no longer confined to affluent urban elites. Nationally representative surveys show that overweight and obese women from poorer households face risks of hypertension and diabetes comparable to those of wealthier women once BMI is accounted for. In several African settings, the association between socioeconomic status and hypertension weakens substantially after adjusting for adiposity, indicating that obesity increasingly mediates NCD risk across income groups [3].

Together, these findings point to a broader global shift: obesity is progressively eroding traditional socioeconomic gradients in NCDs across LMICs. While absolute disease burden often remains higher among wealthier populations—owing to better diagnosis and longer survival—the marginal effect of obesity on NCD risk appears strikingly similar across economic strata. This has profound implications for public health policy, which in many LMICs continues to implicitly prioritise affluent or urban populations in NCD prevention strategies.

The Indian evidence is particularly valuable because of its longitudinal design, which overcomes a major limitation of much LMIC research that relies on cross-sectional data. By tracking changes in BMI over time, the study shows that women who remain chronically overweight have the highest risk of developing NCDs, while those who return to normal BMI experience a significantly lower risk. This dynamic perspective reinforces the importance of mid-life and reproductive-age interventions, a finding that aligns with cohort evidence from South Asia and Africa showing that weight gain during early adulthood strongly predicts later cardiometabolic disease.

The policy relevance of these results extends beyond India. Across LMICs, reproductive years represent a critical but underutilised window for obesity and NCD prevention among women. Pregnancy-related weight gain, declining physical activity, and changing diets contribute to sustained overweight, yet health systems often disengage once maternal and child health goals are met. Integrating weight management, nutrition counselling, and routine screening for hypertension and diabetes into maternal and primary care services could yield long-term benefits in India, Bangladesh, and sub-Saharan Africa alike.

At the same time, the study underscores persistent challenges in NCD surveillance. Reliance on self-reported diagnoses likely underestimates disease prevalence among poorer women with limited access to screening—a concern echoed in African and South Asian contexts. If underdiagnoses disproportionately affects disadvantaged groups, the observed convergence in NCD risk across wealth strata may in fact understate the true extent of inequality erosion driven by obesity.

In conclusion, longitudinal evidence from India adds to a growing body of global research demonstrating that obesity is transforming the social patterning of NCDs in LMICs. The convergence of disease risk across economic groups once overweight is established challenges outdated notions of NCDs as diseases of prosperity. Effective prevention will require population-wide strategies that prioritise healthy weight maintenance across the life course, rather than narrowly targeting the affluent. As countries across South Asia and sub-Saharan Africa confront parallel transitions, addressing obesity among women must become central to equitable global NCD policy.

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