

Study: Causes of obesity in India depend on gender, age and where people live

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Obesity is on the rise in India, and a new front in the struggle to improve nutrition in the country of 1.36 billion people has emerged.

New research from the Tata-Cornell Institute for Agriculture and Nutrition (TCI) sheds light on the patterns of obesity within India, underscoring the need for policies and programs that consider the factors

driving obesity rates within different groups and communities.

In a study published in the journal *Economics & Human Biology*, TCI Director Prabhu Pingali and former postdoctoral associates Anaka Aiyar and Sunaina Dhingra demonstrate that obesity is tied to such variables as gender, age and the level of economic development where individuals reside.

"Biological differences, along with intrahousehold differences in behavior and access to technology, explain how obesity has emerged differently across genders in India," said Dhingra, an assistant professor in the Jindal School of Government and Public Policy at O.P. Jindal Global University in India. "Understanding the circumstances behind these trends can help policymakers identify which factors should be prioritized in efforts to reduce obesity."

Using data from India's National Family Health Surveys, Pingali, Aiyar and Dhingra reveal that the drivers of obesity differ between men and women. For example, biological factors, such as increasing age and diminishing reproductive stress (when a woman stops having children), are associated with obesity among women but not men. Obesity rates in men are more closely associated with the use of technology that reduces physical activity, such as motorized transportation.

Changes to the overall health environment brought upon by economic development were also found to play a role, with urbanization and increasing [sedentary lifestyles](#) associated with rising obesity rates. Within each gender, the researchers found differences between rural and urban dwellers. In rural areas where economic development is low, decreased reproductive stress is the main factor behind obesity in women, whereas in highly developed urban areas, age plays a larger role. For men, access to motorized transport drives obesity in rural areas, while behaviors like television-watching and increased smoking are to

blame in urban centers.

While technology was a bigger factor in male obesity rates, the researchers found that some technologies impacted men and women alike. Because men are more likely than women to drive cars, motorized transportation is more closely linked to obesity in men than in women. Increased time spent watching television, on the other hand, is associated with obesity in both genders.

Based on their findings, the researchers recommend that efforts to stem obesity in India use targeted approaches that account for group- and community-based differences. For example, because advanced age and declining reproductive stress are associated with obesity in women, postmenopausal and middle-aged women should receive health and [nutrition](#) counseling during reproductive health checkups. Nutrition education programs for men should focus on the importance of physical activity and exercise.

To counter the effects of changes caused by economic development, such as increased sedentary behavior, the researchers suggest campaigns encouraging healthy, active behaviors, especially among children. "Proactive campaigns that create awareness of obesity-causing behaviors and promote healthy alternatives can alleviate the impact of changes brought on by economic development and [urbanization](#)," Dhingra said.

The researchers caution that in the long term, India's struggle with obesity as well as undernutrition requires broad food and agricultural policy shifts to increase the availability and affordability of healthy foods.

"At the root of India's malnutrition problem is a lack of diverse, nutritious foods," Pingali said. "Ensuring that Indians have access to a healthy diet is ultimately the key to addressing hunger, undernutrition

and obesity in the country."

More information: Anaka Aiyar et al, Transitioning to an obese India: Demographic and structural determinants of the rapid rise in overweight incidence, *Economics & Human Biology* (2021). [DOI: 10.1016/j.ehb.2021.101041](https://doi.org/10.1016/j.ehb.2021.101041)

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