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Discussion Paper 148

Stunted Child-Overweight Mother Pairs: An Emerging Policy Concern?

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Undernutrition is often thought of as reflecting conditions that affect all members of the household: lack of income, not enough food, and unhygienic surroundings. Under this assumption the intrafamilial association of nutritional status should be strong. In fact, many development agencies use child undernutrition as a key indicator of household poverty and deprivation. The coexistence of underweight and overweight individuals in the same household presents a conundrum that highlights the importance of individual-level factors. It also complicates efforts to improve nutrition. Strategies that once focused only on raising incomes, improving water and sanitation, or elevating the availability of food for the household must now pay close attention to individual factors, addressing multiple and perhaps somewhat conflicting causes of over- and undernutrition within the same household.

Background and Overview

Poverty continues to exist in developing countries, but many of these countries are also confronting health risks from diseases associated with excess, such as diabetes and obesity. These diseases are associated with increased economic development and urbanization, which lead to changes in diets, consumption of more processed foods, and decreased levels of physical activity. This shift in the nature of problems of disease and nutrition in many developing countries has been termed the nutrition transition.

Studies now show that this coexistence of under- and overnutrition exists not only at the societal but also the household level. This study examines one particular aspect of this phenomenon: the occurrence of a stunted (undernourished) child in the same household as an overweight (overnourished) mother. We term this pairing of a stunted child with an overweight mother SCOWT. The objectives of the study are to quantify the global prevalence of SCOWT, explore its association with economic development and urbanization, and highlight policy directions for the public nutrition community.

Design

Data from 36 recent Demographic and Health Surveys were used (23 in Africa, 8 in Latin America, and 5 in

Asia). Stunting was defined as height-for-age <-2 SD of the reference population and maternal overweight as body mass index (BMI) of >25 kg/m². World Bank and United Nations figures were used for GNP per capita (our indicator of economic development) and for level of urbanization, respectively. Descriptive statistics were derived, and regression analysis was used to model the association between economic development, urbanization, and the prevalence of SCOWT.

Results

The range of overweight mothers is remarkably large, even within a region. In Africa, for instance, 4 percent of mothers were overweight in Madagascar as compared to 55 percent in Egypt. Overweight mothers were practically nonexistent in the Asian countries of Bangladesh and Nepal, but quite common in Latin America. With the exception of Haiti, more than 30 percent of mothers in the Latin American countries studied were overweight. Childhood stunting remained a problem as well, even in urban areas and in countries with a high prevalence of overweight mothers. For instance, in Egypt and Bolivia, the countries with the highest prevalence of overweight mothers, more than one-quarter of children 6 to 60 months old were stunted.

Overweight mothers and stunted children do not necessarily occur in the same household, but we also found

a range of instances where they do. Still, the prevalence of SCOWT was generally below 10 percent, except for four countries. In these countries (Bolivia, Guatemala, Nicaragua, and Egypt), the prevalence

of SCOWT ranged from 10 to 14 percent. Surprisingly, SCOWT was not always more prevalent in urban than in rural areas. In Latin America, except for Haiti and Peru, SCOWT was actually higher in rural areas.

In addition to associations of SCOWT with economic development and urbanization, the regression model tested for regional and urban-rural differences. We found that the association of SCOWT with development and urbanization does not differ between rural and urban areas, a conclusion in line with the descriptive statistics that showed prevalence was sometimes higher in rural

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areas. However, we found that SCOWT is associated with urbanization, though not urban residence, in Latin America (although this does not hold for Asia or Africa). Economic development is associated with SCOWT in all three regions.

Discussion

We expected SCOWT to emerge as part of the nutrition transition, but not that SCOWT might be more prevalent in rural areas. And in contrast to our expectations, one might also think that malnutrition, and SCOWT, would decline with economic development and with a higher percentage of the population living in the cities.

What might lie behind these results? First, the prevalence of SCOWT is affected by the rates of childhood stunting, which is consistently higher in rural than urban areas, and by the prevalence of maternal overweight, which is currently escalating in rural areas of many countries in the nutrition transition. In addition, the results suggest that SCOWT is related to urbanization, although not necessarily urban residence. The lack of association of SCOWT in Africa and Asia with urbanization may be because of relatively low levels of urbanization and consequently of the prevalence of factors associated with an “urban lifestyle” and the nutrition transition in those regions.

SCOWT is one expression of a phenomenon observed by other authors that intrafamilial association of nutritional status declines with increases in economic development. The exact reasons for this dissociation are unknown, but we propose some hypotheses. For example, in more economically developed societies like those of Latin America, the problems of low incomes and lack of food are relatively less binding. Undernutrition may be associated less with these household factors and more with specific diseases or individual characteristics. Additionally, in countries undergoing the nutrition transition, members of the household are probably not

experiencing the changes in physical activity and diet uniformly, leading to different individual outcomes. On the other hand, the poor dietary quality also associated with urbanization could provide a common determinant for SCOWT. Low dietary quality in children usually results in inadequate nutritional intake, causing poor growth. In adults, low quality diets may result in micronutrient deficiencies and increase the risk of obesity.

Policy and Program Challenges

The prevalence of SCOWT at a significant level in Latin America and the more economically developed countries of Africa and Asia underlines the fact that policymakers and programmers can no longer assume that those households with malnourished children are simply in need of “more food.” They must tune their antipoverty and food and nutrition programs to a more complex reality. Policymakers may need to emphasize changes in individual dietary and activity patterns and in caring and feeding behaviors, including dietary quality, not only general household access to food. They face a serious challenge in having to deal with conflicting demands of dietary excess and deprivation not only in the same population but also in the same household.

Experiences in Brazil, China, and Finland suggest a number of elements of successful programs to confront increased health risks associated with the nutrition transition, but there are few examples of programs that simultaneously and directly address the other half of the problem: undernutrition. China’s development of a diet-quality index and food guide pagoda is one of the few examples to do so. The concrete recognition of SCOWT could be an important step to delineating public nutrition strategies that explicitly take this dual challenge into account.

Keywords: DHS (Demographic and Health Surveys), malnutrition, nutrition transition, overweight, stunting, urbanization

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