Overfed and undernourished: The global issue of obesity and malnutrition

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Credit: Alex Green from Pexels

A shift in global diets is seeing people switch to foods high in calories, but low in nutritional value, with negative impacts on health.

Traditionally, global health has focused on two distinct issues in nutrition, with seemingly little overlap: overnutrition, which includes being overweight or obese; or undernutrition, which includes being underweight or having nutrient deficiencies.

However, both conditions are increasingly being seen in the same population, household and even in individuals, with researchers coining the term 'double burden of malnutrition' (DBM). The issue is set to become more problematic as poorer countries develop, and a greater consumption of ultra-processed foods displaces traditional regional diets.

Ryan O'Hare spoke to Dr. Paraskevi Seferidi, from Imperial's School of Public Health, who is part of a team looking at this double hit of malnutrition.

Their latest study, published this month, is the first global analysis of inequalities of DBM, and hints at the complex impacts that globalization is having on people in low- and middle-income countries.

Q: What did your study look at and what does it tell us about DBM?

Paraskevi Seferidi: We specifically looked at household-level DBM. This is when, within the same household, a child is stunted—meaning they have a delay in their growth and are shorter than the average for their age—but their mother is overweight, so they have overnutrition. This is the most common form of DBM which we can find all over the world, but there are other types as well.

Our focus was on how household DBM varies across different socioeconomic groups within a country and how the income of the country can impact this. In addition, we looked at how this double

burden can be associated with different types of globalization—things like trade and investment policies, global connectivity and how open a country is to external social influence.

We gathered published health data for more than 1.1 million children and their mothers in 55 low- and middle-income countries around the world.

What we found was that there is inequality in how DBM is distributed within a country, and that this inequality is associated with the country's wealth. In the poorest countries we found that DBM was more likely to exist in richer households, but in the richer countries, DBM was more common in poorer households. What we're seeing is that as countries become wealthier, there is a shift in this inequality, from the richest to the poorest households.

Q: We tend to think of globalization in terms of finance and economics, but how does it affect nutrition and what people eat?

PS: It is a complicated picture because globalization can affect different aspects of a country to varying extents—such as trade and economic factors, social connectivity, and as a result people's diets.

For example, globalization can impact the food system directly, with economic factors such as liberal trade, investment and financial policy determining which foods are available and how much they cost. But social aspects of globalization can also impact people's behaviors or attitudes towards food. For example, as a country becomes more globally connected people's food preferences can be influenced through advertising, but people can also be exposed to different food behaviors through the internet, social media, even TV and films.

Q: So what does your study add to the picture, is it that globalization is the overriding factor?

PS:I think the new element here is that when we look at the DBM and how it is associated with globalization, we take into account both household and country level wealth.

Until now, studies of DBM haven't done this, and the results have been conflicting. For example, in some countries, studies have found that the DBM is more likely to occur among the wealthiest people, whereas in other countries it occurs among the most deprived. Also, some studies find associations with globalization, while others don't.

What we have shown is that it is context specific. So the existence of this double burden is associated with both household wealth and the country's level of wealth. Similarly, globalization might affect the DBM differently across different groups of people, depending on their own economic status but also the economic status of the country they live in.

Q: Do we know what's driving the underlying dietary changes in these countries—is it that processed foods are becoming cheaper and more readily available? Or is there another reason?

PS:We haven't tested that yet, but we do have some hypotheses we are exploring.

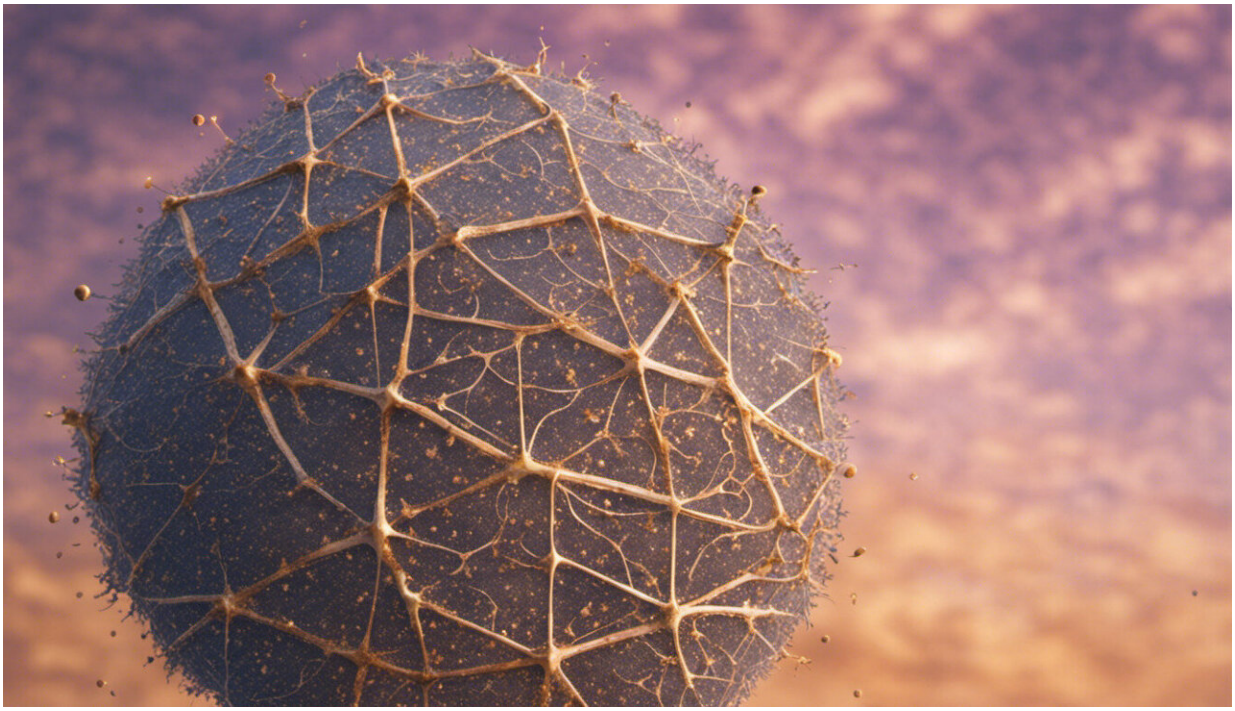
Firstly, in terms of economic globalization, we may be seeing the impact of multinational corporations entering into the markets of low- and middle-income countries and introducing new ultra-processed foods. These markets are particularly attractive to corporations as they are still

not as saturated by these products as higher income countries, where they are much more established.

When these foods are introduced, they are typically accompanied by aggressive marketing and advertising. But these countries still have a legacy of undernutrition. As the quantity of food is increased but the nutritional quality is reduced, we see the emergence of both of these types of malnutrition.

In terms of social globalization, it is likely that it's more because of changes in people's perceptions, towards more of a westernized, commercialized approach to food and away from traditional diets.

Then there are things such as mass media exposure to infant milk formulas, and other barriers to breastfeeding, which are likely to impact the DBM.



Credit: AI-generated image (disclaimer)

Q: So are people moving away from traditional, perhaps healthier diets as their country becomes wealthier?

PS: There is a phenomenon called the 'nutrition transition' in which we have countries that are mainly based on traditional diets and then they transition towards westernized diets.

Countries in Latin America are a great example of this because they are at this stage where we have seen the introduction of large corporations, and we can clearly see this transition—in Brazil, for example, we have seen a shift in eating behaviors towards more ultra-processed foods and increases in associated dietary outcomes, like obesity and diets low in nutrients. Other lower income countries, haven't yet seen this to the same extent so there may still be time to prevent this, through regulation, for example.

It's happening elsewhere and if we continue at the same rate, it's likely what we are seeing in Latin America can happen in other countries as well.

Q: How can countries counter these effects and reduce this double hit of malnutrition?

PS: First, I don't think DBM is a widely recognized problem. The World Health Organization recommends policies that address both overnutrition and undernutrition at the same time (termed double-duty policies), but as far as I know, there are no such policies widely implemented at the moment.

Although there is some discussion within the research community, unfortunately, nutrition and public health are often not part of discussions when it comes to trade and investment policy. So I think recognizing that more liberal global trade policies can impact public health and nutrition would be an important first step.

Also, regulating corporate activities—especially the freedom multinational corporations have when they start selling and marketing products in a new market—might protect the food environment and nutrition in low- and middle-income countries.

Fundamentally, we should not see malnutrition as two separate things, but we should target them together as one. But another important thing I think is to recognize that the problem is context specific. We found these associations are different across household wealth and country wealth, so we need context-specific policies that consider the needs and priorities of the communities they target.

Q: So what's the next step for the research?

PS: We're working a lot on the pattern of malnutrition. We have a large focus on Peru, but we also look at global level associations. What we want to understand first of all is how other top level factors, such as food and transportation systems or environmental drivers, might impact DBM.

Beyond this, we also want to think of the double burden of malnutrition as part of a complex system. If we can recognize how overnutrition and undernutrition interact with each other over time, we may be able to build a clearer picture of what's going on, and ultimately, we may be able to help stop it from happening.

"Global inequalities in the double burden of malnutrition and

associations with globalization: a multilevel analysis of Demographic and Healthy Surveys from 55 low-income and middle-income countries, 1992–2018," by Paraskevi Seferidi et al., is published in *The Lancet Global Health*.

More information: Paraskevi Seferidi et al, Global inequalities in the double burden of malnutrition and associations with globalisation: a multilevel analysis of Demographic and Healthy Surveys from 55 low-income and middle-income countries, 1992–2018, *The Lancet Global Health* (2022). DOI: 10.1016/S2214-109X(21)00594-5

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