

Obesity and Malnutrition: The Paradoxical Health Crisis

What is malnutrition?

When we think of malnutrition, what comes to mind is undernourishment, and starvation even, caused by poverty, hunger, and food insecurity. We might think of Africa in particular, where one-fifth of the population is affected by undernourishment.ⁱ But malnutrition also exists in Western countries where sedentary lifestyles and easy access to cheap, highly processed food have contributed to an obesity epidemic. Paradoxically, malnutrition can coexist with obesity.

In medical contexts, malnutrition is now subdivided into undernutrition and overnutrition to distinguish between nutrient deficiency caused by lack of food and micronutrient deficiency caused by unhealthy food. This coexistence of contrasting causes of malnutrition is known as the double burden of malnutrition.ⁱⁱ

In 2018, 49 million children under five worldwide were affected by wasting yet almost as many children, 40 million, in fact, were overweight. According to [a study](#) by the American Dietetic Association (ADA) on poverty, obesity and malnutrition, undernutrition or overnutrition can be caused by food insecurity. Food insecurity is defined by people not having “adequate physical, social, or economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”ⁱⁱⁱ

Poverty, food insecurity and malnutrition in the form of undernutrition is easily identifiable at a geographical level, especially where hunger is evident. But the ADA identify the less well-known but pervasive problem of hidden hunger. Hidden hunger occurs when micronutrient requirements for optimal health and disease prevention aren't met due to a deficient diet even though calorie needs are met or exceeded.^{iv}

According to the ADA, the most common examples of hidden hunger in the world are poor iron status among women and vitamin A deficiency in preschool children, which can cause blindness. Hidden hunger isn't just associated with poverty either. The World Health Organization (WHO) recognizes that this double burden of undernutrition and overnutrition can occur at the individual, household and population levels regardless of age, income, and country.

Where did obesity-related malnutrition come from and what is the health impact?

Not so long ago, fresh, home-cooked food was the norm and obesity was rare. But today highly processed, calorie-dense food is convenient and widely available. Processed foods may also be more affordable for families on low incomes looking for the cheapest high-energy meals. Not only do we have drive-thru restaurants, we can dial up Uber Eats and have pizza on our lap in no time.

Fast food outlets have even spread to developing countries to create a global double burden of malnutrition. Data show that household cost constraints result in a diet that favors foods high in fat and carbohydrate, such as industrialized snacks and sweets.^v Lack of education on healthy eating also plays a part in unhealthy diets. Likewise, people living alone often choose food that is easy to cook. **Hunger and food insecurity are real issues in the elderly.**^{vi}

Poor diets combined with sedentary lifestyles have created a health time bomb. According to the WHO, in 2014, more than 1.9 billion adults (18+) worldwide were overweight while 462 million were underweight. More than 600 million people were obese. Among children under five, 41 million were

overweight. The Harvard T.H. Chan School of Public Health [notes](#) that for the first time in human history, the world has more overweight than underweight people.

Obesity increases the risk of chronic diet-related non-communicable diseases (NCDs), including type 2 diabetes, cardiovascular disease and some cancers, as well as dementia.^{vii} On a micronutrient level, [a study](#) on the malnutrition of obesity found that deficiencies in Thiamine (B6), Biotin (B7) Vitamin D, Chromium, and antioxidants Vitamin A, C, and E promote diabetes.^{viii}

Childhood obesity is especially worrying because it can lead to lifelong health problems. The U.S. has some of the highest obesity rates in the world. In 2012, one in six children in the U.S. was obese, and one in three was overweight or obese. Obesity can harm a child's heart and lungs, muscles and bones, kidneys and digestive tract, and hormones that control blood sugar and puberty.^{ix}

The double burden of malnutrition means that children and adults around the world not only face premature death due to undernutrition but also the chronic diseases associated with obesity or overnutrition.^x

How can we tackle this obesity and overnutrition health crisis?

The WHO advises double-duty actions that broaden the focus from hunger to nutrition. This focus on nutrition reflects the United Nations Sustainable Development Goals (SDGs) to eradicate poverty and [hunger](#) and to ensure health and wellbeing for all.^{xi} Double-duty actions include interventions, programmes and policies aimed at simultaneously reducing the risk or burden of both undernutrition (including wasting, stunting and micronutrient deficiency) and overweight, obesity or diet-related NCDs (including type 2 diabetes, cardiovascular disease and some cancers).^{xii}

In the U.S. and the U.K., the significant long-term costs of treating chronic lifestyle diseases could be slashed by shifting the focus to prevention. This could include education for healthcare professionals and the public, the promotion of healthy lifestyles and support for global sustainable food systems.

The media play a vital role too by making sure that health research is reported in a balanced way without the sensationalist reporting that confuses people. For example, for years fat was demonized when the type of fat people eat is more important than the amount.^{xiii} Likewise, the rise in people eating a plant-based diet has caused scaremongering in the media when a focus on fact-based advice would be helpful.

There does, however, seem to be a consensus on the need to eat more whole foods and less highly processed foods, which are usually high in sugar, salt, and saturated fat. Whole foods include wholegrains, vegetables, fruits, nuts, healthy proteins (such as beans, fish and poultry), and pure plant oils. Foods with a low glycemic index are preferable because they help regulate blood sugar and insulin and avoid the spikes that can increase hunger in the short term and the risk of weight gain, diabetes and heart disease in the long-term.^{xiv}

With a collaborative effort between governments, food corporations, healthcare providers, educators, and the public, we can start to reverse the global trend in obesity-related malnutrition.

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