

Glossary

Metabolic syndrome¹

The metabolic syndrome is a cluster of the most dangerous heart attack risk factors: diabetes and raised fasting plasma glucose, abdominal obesity, high cholesterol and high blood pressure. This ‘clustering’ of metabolic abnormalities that occur in the same individual appears to confer a substantial additional cardiovascular risk over and above the sum of the risk associated with each abnormality. The International Diabetes Federation’s (IDF) definition of the metabolic syndrome addresses both clinical and research needs and stipulates that for a person to be defined as having the metabolic syndrome they must have central obesity plus any of two of the following factors: raised triglycerides, reduced HDL cholesterol, raised blood pressure and raised fasting plasma glucose.

Thrifty genotype hypothesis^{2,3}

In 1962, geneticist James Neel proposed the thrifty gene hypothesis, providing a potential explanation for the rise in type 2 diabetes. The theory proposes that through natural selection we evolved to be efficient in the intake and utilization of fuel as these were beneficial human modifications. However, during the past century, the transition to an excess of food and limited physical activity has created a situation where our previously advantageous thrifty genes now make us susceptible to diabetes and obesity. “This thrifty genotype is suggested to lead to metabolically disadvantageous phenotypes” (Southam et al.).

Thrifty phenotype⁴

The thrifty phenotype hypothesis is concerned with the influence of nutritional programming on disease in later life. It proposes an association between poor fetal and infant growth and the subsequent development of type 2 diabetes and the metabolic syndrome, and that inadequate nutrition in early life produces permanent changes in glucose-insulin metabolism. These changes comprise reduced capacity for insulin secretion and insulin resistance, which, together with the effect of obesity, aging and physical inactivity, are significant factors in determining type 2 diabetes.

Double burden of malnutrition⁵

The double burden of malnutrition is characterized by the co-existence of undernutrition along with overweight and obesity, or diet-related noncommunicable diseases (NCDs), within individuals, households and populations and across the life course. This double burden of malnutrition can exist at the individual level (for example, obesity with deficiency of one or various vi-

tamins and minerals, or overweight in an adult who was stunted during childhood), at the household level (when a mother may be overweight or anemic and a child or grandparent is underweight) and at the population level (where there is a prevalence of both undernutrition and overweight in the same community, nation, or region).

Triple burden of malnutrition⁶

The triple burden of malnutrition is a term that refers to the co-existence of overnutrition, undernutrition and micronutrient deficiencies within individuals, households and populations.

Double-duty actions⁷

Double-duty actions include interventions, programs and policies that have the potential to simultaneously reduce the risk or burden of both undernutrition (including wasting, stunting and micronutrient deficiency or insufficiency) and overweight, obesity, or diet-related NCDs. Reflecting the shared drivers and platforms of contrasting forms of malnutrition, double duty can be achieved at three levels: through doing no harm with regard to existing actions on malnutrition; by retrofitting existing nutrition actions to address or improve new or other forms of malnutrition; and through the development of *de novo*, integrated actions aimed at the double burden of malnutrition.

Life-course perspective⁸

The life-course perspective highlights a time-based and social perspective, looking across an individual’s or a population’s life experiences, and also across generations, to understand current patterns of health and disease. It recognizes that both past and present experiences are shaped by the wider social, economic and cultural context.

Nutrition transition⁹

Over the past three centuries, the pace of dietary change appears to have accelerated to varying degrees in different regions of the world. The concept of the nutrition transition focuses on large shifts in diet and activity patterns, especially their structure and overall composition. These changes are reflected in nutritional outcomes, such as changes in average stature and body composition. Furthermore, dietary and activity pattern changes are paralleled by major changes in health status and by major demographic and socioeconomic changes. This shift towards increased obesity and NCDs is only the latest pattern of this transition (**Table 1**).

TABLE 1: The stages of the nutrition transition¹⁰

Characteristic	Stages		
	Pre-transition	Transition	Post-transition
Diet (prevalent)	Grains, tubers, vegetables, fruits	Increased consumption of sugar, fats and processed foods	Processed foods with high content of fat and sugar; low fiber content
Nutritional problems	Undernutrition and nutritional deficiencies predominate	Undernutrition, nutritional deficiencies and obesity coexist	Overweight, obesity and hyperlipidemia predominate

Double burden of disease^{11,12}

The double burden of disease is characterized by the coexistence of communicable (infectious disease) and NCDs. This double disease burden is a common characteristic of low- and middle-income countries fighting infectious diseases such as malaria and tuberculosis of 80% of all cardiovascular-disease-related deaths.

Triple burden of disease¹³

The triple burden of disease refers to the existence of both communicable and NCDs together with health risks associated with globalization, such as mental health, injuries and sociobehavioral conditions.

Anthropocene¹⁴

Anthropocene relates to the current geological age, in which it is believed that Earth has been significantly altered through human activity. This human activity has impacted climate and the environment.

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