

Abstract

Philosophical Reflection on Holism and Reductionism in Nutrition Science [†]

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Abstract: Nutrition, as a science, is facing challenges. While issues regarding obesity, chronic diseases, and sustainability are becoming more pressing, nutrition science is encountering limitations regarding novel insights, trust, and social relevance. In order to move forward, we need to innovate the field and explore new perspectives. Current nutrition research has mainly employed a reductionist approach, which has been very successful in the past. However, reductionism shows limitations when addressing the problems we face today. The addressed weaknesses of reductionism include (1) the questionable assumption that nutrients and calories are exchangeable between foods, (2) the tendency of reductionism to oversimplify reality, which has consequences for complex concepts such as health and nutrition, and (3) the focus on details, which could undermine the aim of nutrition science: creating optimal dietary guidelines for the promotion of health and prevention of disease. Holism offers an alternative perspective that could complement these limitations, on the condition that they are similar enough on an ontological and epistemological level. Holistic approaches to health appear in eastern philosophies (ayurveda), but also in modern western nutrition approaches (dietary patterns). These two holistic approaches can complement reductionism in the following ways: (1) Holistic approaches like ayurveda and dietary patterns provide different nutritional knowledge by considering multiple factors that affect food's health potential, in addition to only nutrients and calories. Some of these factors include food processing, food matrix/structure, food combinations, food compatibility, and nutrient interaction. (2) Holism can complement the reductionistic tendency to oversimplify reality by including subjective, individual, and holistic aspects of health into nutrition research and embracing the complexity of food-chronic disease relationships. (3) Holism has the potential to improve the practical relevance and comprehensibility of nutrition science. All presented results were based on the existing literature, found in Scopus and PubMed. To conclude, this study explores how holism can complement the limitations of reductionism, and as a result, reduce the overemphasis on reductionism as a research approach, which will hopefully promote progress and inspire the future of nutrition science.

Keywords: nutrition; nutrition science; holism; reductionism; ayurveda; dietary patterns



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