Chapter 3
Foods for Health and Disease Prevention

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ABSTRACT

Superfoods have captivated global attention with claims of enhanced health benefits beyond basic nutrition. This chapter examines their journey from traditional remedies to marketing phenomena, analyzing both scientific evidence and cultural significance. While rich in bioactive compounds like antioxidants and polyphenols that show promise for disease prevention and microbiome health, many superfood claims lack rigorous scientific validation. The research reveals that traditional healthy foods often provide comparable benefits at lower costs, highlighting accessibility issues.

INTRODUCTION

Food is a basic human need and it can be considered as a cornerstone in any civilization, society or culture, which is a means of keeping the body and soul together. Apart from satisfying the hunger and providing the body with energy, food is also a medium which is used for health, longevity and curing or prevention of diseases. With the development of science and technology, there has been a greater

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understanding on the nutritional profiles of the foods and their vital roles within the body, which affects long term health and the prevention of chronic diseases (Tacer-Caba, 2019). This awareness had developed the concept of functional foods which had started in Japan (Nataraj et al., 2020).

Functional foods are foods that provide more than basic nutrition, they provide additional health benefits, regulate specific physiological processes, regulate defense mechanisms, prevent or cure certain diseases and also slow the ageing of the body (Nataraj et al., 2020). These are foods that provide a positive impact on the physical, mental and emotional wellbeing of the consumer (Fernández-Ríos et al., 2023; Nataraj et al., 2020; Tacer-Caba, 2019). Functional foods differ from conventional foods mainly due to the bioactive compounds contained in them have a positive influence on human health. Their nutritional profiles are either fortified or enriched by the required phytochemicals or antioxidants, in order to carry out their crucial roles in health and wellness (Tacer-Caba, 2019).

Superfoods, on the other hand is another group parallel to functional foods that have been identified to be loaded with nutrients and bioactive components (Tacer-Caba, 2019). 'Superfoods', is a term of no official scientific, regulatory or legal meaning, and is commonly used to describe foods that are high in nutrients and high in health benefits, such as immune boost, improved production of hormones and improved function of the body systems (Fernández-Ríos et al., 2022). Defined as foods particularly nutritious or helpful for human well-being, superfoods are considered rich sources of vitamins, minerals, antioxidants and other bioactive components (Kumar & Ahamed, 2025). Butterworth et al., (2020) shows that according to the *Merriam-Webster Dictionary*, superfoods are foods which are rich in components which are considered to bring benefits for the human health.

Upon its first emergence, 'superfoods' referred to functional foods – foods that provide health benefits beyond basic nutrition. These foods are typically minimally processed and naturally abundant food from specifically defined geographic areas that are conventionally used for culinary or medicinal purposes. Superfoods are usually advertised as exotic or rare, functional foods, but unlike them, superfoods are known for their strong health benefits, and a traditional practice of use. They contain bioactive compounds, including antioxidants, flavonoids and phenolics, associated with disease prevention of cardiovascular disease and diabetes (Jagdale et al., 2021).

1. BIOACTIVE COMPONENTS OF SUPERFOODS

Superfoods are densely packed with bioactive components or secondary metabolites compared to regular foods. According to Arumugam et al., (2021),