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COMMENTARY

Nanotechnology in Elevation of the Worldwide Impact of Obesity and Obesity-Related Diseases: Potential Roles in Human Health and Disease

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Abstract

Current worldwide data show epidemics of obesity and type 2 diabetes with no real solutions apart from continuous calls to changing lifestyle and food habits. Despite health messages that are communicated by health authorities, the epidemic is growing. More people are affected with health consequences that are usually frightening as more resources are wasted, especially in areas where health care and resources are lacking.

Nanotechnology applications in food industry present practical approaches that help produce more tasty food with little calories, functional foods, and nutritional supplements and alter the fats and sugar contents of our foods with potential for many more applications. Consequently, this opens more windows to better control of many nutritional deficiencies as well as obesity and type 2 diabetes, especially among children and young adults who are addicted to fast food. With such potential, food producers, policy makers, health authorities, food scientists, and governments need to collaborate and make all possible efforts to fund and support research in different areas of food produced using nanotechnology.

So far, consumers are not prepared to accept food produced using nanotechnology, mainly because information on the safety of such products are not enough. This issue needs to be addressed and researched well using suitable risk assessment methodologies. Consumers need to be assured, and involved as well, to avoid the "refusal state" that still exists against many safe products such as genetically modified organisms and irradiated food. There is the possibility that consumers could perceive that they will bear the potential risks posed by nanotechnology applications while the benefits will accrue mainly to others, such as food processors or farmers.

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Abbreviations: (BMI) body mass index

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