



Synergistic role of food in shaping the immune system.

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Abstract:

A healthy outside starts from the inside”. Nutrition is intricately linked to immunity and to the risk and severity of infections. Poorly nourished individuals are at a greater risk of various bacterial, viral, and other infections. Conversely, chronic or severe infections lead to nutritional disorders or worsen the nutritional status of affected people. Balanced nutrition, especially in terms of essential nutrients, dietary intake along with environmental exposures, and nutrigenomic influences play a substantial role in the ability of the immune system to respond and resolve infectious insults. The nutriment which support and stimulate the immune system are called “Immuno-nutritional elements” that can be consumed naturally in daily food habits or, those genetically modified, or enriched nutriment. Insufficient intake of nutrients occurs in people with eating disorders, in smokers (active and passive), in individuals with chronic alcohol abuse, in certain diseases, during pregnancy and lactation, and in the elderly.

Nutrient deficiency suppresses immunity by affecting innate, T-cell mediated and adaptive antibody responses, leading to dysregulation of the balanced host response. Nutrition contribute to the body’s natural defences on three levels by supporting physical barriers (skin/mucosa), cellular immunity and antibody production. Vitamins A, C, E and the trace element zinc assist in enhancing the skin barrier function. The vitamins A, B6, B12, C, D, E and folic acid and the trace elements iron, zinc, copper and selenium work in synergy to support the protective activities of the immune cells. Finally, all these micro-nutrients, protein with the exception of vitamin C and iron, are essential for antibody production. Correspondingly, effects of food on mood have also been observed long back, ranging from increases in happiness, contentment and alertness to feelings of depression, anxiety, failure and guilt. Significant relationship was found between more positive mood and higher



fruit and vegetable consumption thereby enhancing immunity. Hence, remaining away from the stressful factors, approaching life and events positively, keeping away from smoking and alcohol, adequate and balanced nourishment and regular exercising are among the supports to strengthen the immune system.

Biography:

Shilpee Agrawal is currently working as Assistant Professor at Sheth P. T. Mahila College of Arts & Home Science, India

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