



Immune boosting products

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Introduction

The human body is constantly exposed to potentially disease-causing micro-organisms such as bacteria and viruses or 'pathogens'. To fend off these unwanted pathogens, the immune system must come into play. The main role of the immune system is to identify potential pathogens and to co-ordinate with other immune cells to destroy the invader. When these processes don't function optimally (when the immune system is 'down'), the body is more susceptible to illnesses such as the common cold.^{1,2} Sub-optimal immune function can be caused by environmental factors such as stress. In such cases, it becomes necessary to boost immune function and following a healthy lifestyle is, undoubtedly, the best way of doing so. However, some foods, vitamins and herbal extracts may also have an influence on improving immunity.

Vitamins

Vitamins and minerals with anti-oxidant qualities have been shown to improve the functioning of the immune system. Vitamin C is probably the most well-known immune booster. Despite popular belief, consuming copious amounts of citrus fruit or vitamin C supplements will not prevent illness. Studies show that vitamin C does not prevent instances of the common cold but may reduce the duration of its effects. Although beneficial when consumed within recommended ranges, excessive consumption of vitamin C (usually through supplement use), has a negative effect on the immune system, causing cell damage and an increased risk of illness.²

Zinc is also a prominent nutrient in optimising immune function. This is due to its role in maintaining the protective mucous membranes of vulnerable areas such as the nasal cavity, where bacteria are likely to enter the body. On a

cellular level, zinc plays an important role in immunity-related reactions. It also acts as an antioxidant; preventing damage to cells, which may lead to a reduced risk of illness. Zinc has been proven to reduce the instance and severity of the common cold and supplementation, under certain conditions, may be beneficial to the immune system.² Zinc supplementation in developing countries has also been shown to decrease the proportion of diarrhoeal episodes which last beyond seven days.³ Other immune-boosting vitamins include vitamin D, which is required to produce macrophages (the cells that ingest and destroy pathogens). Vitamins E and A also possess antioxidant qualities and can improve immune function.²

Herbal extracts

Complementary medicines have been used for centuries to boost the immune system. Various herbs possess a wide range of phytochemicals which have a positive influence on immune function.⁴ Flavonoids are plant-synthesised phytochemicals which demonstrate antibacterial, antiviral and anti-oxidant activities. They are present in tea, as well as in various fruits, vegetables and legumes.

Another prominent compound is lignin, a type of fibre found mainly in root-vegetables, which is conducive to both immunogenic and gut health.

Carotenoids also contain antioxidant and immunogenic qualities. These fat-soluble pigments, found in orange and yellow-coloured vegetables, can be converted to functional vitamin A which promotes immune function.⁵

Specific foods can also have an influence on the immune system. Garlic, for example, has been shown to stimulate the production of immune cells and may help prevent the development of cardiovascular disease, gastric conditions and obesity.⁶

Another curious immunogenic comes from extracts of the Echinacea plant. Research suggests that the consumption of Echinacea may prevent the occurrence and the recurrence of colds and flu. Echinacea can be a useful replacement to common cold medicines as it poses little or no risk of resistance or adverse effects.²

Conclusion

The immune system functions as the body's defence against disease-causing pathogens. When the immune system is compromised, the risk of contracting an illness is heightened. In order to prevent getting sick, it has become common practice to consume immunogenic substances in an effort to enhance the immune system. These compounds range from vitamins and minerals to herbal remedies and foods such as garlic and Echinacea, respectively.

References

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