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Review Article: Protein Calorie Malnutrition and Immune Response in Children

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Abstract

The fundamental relationship between malnutrition and immunity was initially described as a thymolymphatic deficiency caused by protein calorie malnutrition (PCM). The selective sensitivity of the thymus to nutritional injury is specifically important in the formative phases of the fetal and neonatal immune system. Recent studies suggest that prenatal nutrition and growth during the first of life may predict thymic function in adolescence. Related studies have shown that prenatal zinc deficiency is associated with decreased immune function in later life. The prenatal zinc deficiency is generally accepted that age related in immune response appear to be seen from programmed involution of the thymus. Thymic involution and induction of thymulin secretion from human thymic epithelial cells have obtained with zinc treatment, suggesting that specific nutrients may act as regulatory elements by modulating cellular programs. The potential significance of early nutrition for adaptive immune response in general is also indicated by studies of mucosal immune response to antigens, which have shown that experimental priming at birth ensured both a stronger and a more lasting immune response toward potential pathogens. Malnutrition has an adverse impact on immunological functions and can serve to suppress cell-mediated, humoral, and secretory immune competence. Nutritional immunodeficiencies in human beings appear to respond well to dietary therapy. Micronutrients, trace elements, and vitamins have important regulatory effects on adaptive immune cell function.

Keyword : malnutrition, immune, response, ,

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