



Vitamin A & the Measles

Vitamin A, particularly in the form of retinol and its ester, retinyl palmitate, plays a crucial role in immune function and has been extensively studied for its impact on measles outcomes. Here's a summary of the research findings:

Vitamin A and Immune Function

Vitamin A is essential for maintaining normal epithelial tissues and supporting immune function. Deficiency in vitamin A can lead to impaired immunity and increased susceptibility to infections. Measles, a viral disease, damages epithelial tissues and suppresses immune responses, which can be exacerbated by vitamin A deficiency.

Impact on Measles Severity and Mortality

Several studies have demonstrated that vitamin A supplementation reduces the severity and mortality associated with measles:²

- In areas where vitamin A deficiency is prevalent, supplementation has been linked to reductions in childhood morbidity and mortality. For instance, studies in Asia have shown that vitamin A supplementation reduced mortality by 6% to 54% among children.
- A meta-analysis indicated that vitamin A supplementation reduced all-cause mortality in children in low-income countries by approximately one-third. Specifically, in children hospitalized with measles, a 66% reduction in mortality was observed, although this was not significantly different from the 30% reduction seen in community settings.

WHO and UNICEF Recommendations

Recognizing the benefits of vitamin A, the World Health Organization (WHO) and UNICEF recommend administering 200,000 IUs of vitamin A twice to children over the age of one year diagnosed with measles in areas where vitamin A deficiency is prevalent.

Mechanisms of Action

Vitamin A supports the immune system by maintaining the integrity of epithelial tissues and enhancing immune responses. During measles infection, vitamin A levels can become depleted, further compromising immunity. Supplementation helps restore these levels,

thereby improving the body's ability to combat the infection and reducing the risk of complications.

Recommendations for High-Income Countries

While vitamin A deficiency is less common in high-income countries, severe measles cases, including those requiring hospitalization, may still benefit from vitamin A therapy. Despite evidence supporting its efficacy, the use of vitamin A in treating measles remains low in some regions. Experts recommend that all children diagnosed with measles receive an age-appropriate dose of vitamin A as part of comprehensive management, regardless of their nutritional status.

Conclusion

Vitamin A, particularly in the form of retinol and retinyl palmitate, is vital for immune function and has a significant impact on reducing the severity and mortality of measles infections. Supplementation is especially crucial in areas with prevalent vitamin A deficiency but is also beneficial in managing severe measles cases in regions where deficiency is less common.
