

Efek Suplementasi Vitamin D dan Seng Terhadap Pertumbuhan Balita: *Literature Review*

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ABSTRAK

Latar Belakang: Kekurangan zat gizi mikro seperti vitamin D dan seng menjadi salah satu penyebab terhambatnya pertumbuhan. Suplementasi vitamin D dan seng menjadi salah satu intervensi untuk mengatasi permasalahan pertumbuhan balita.

Tujuan: Mengetahui efek suplementasi vitamin D dan seng terhadap pertumbuhan balita berdasarkan metode literature review.

Metode: Penelitian ini menggunakan metode *literature review* dengan pendekatan *narrative review*. Strategi pencarian artikel dilakukan pada *database Google Scholar, Science Direct, dan PubMed* dengan kata kunci dan operator *boolean*. Kriteria inklusi artikel yang dipilih yaitu dalam rentang tahun 2015-2025, membahas suplementasi vitamin D dan seng terhadap pertumbuhan balita dalam indikator antropometri berat badan dan tinggi badan, serta ditulis dalam bahasa Inggris atau Indonesia dengan desain penelitian intervensi dan observasional.

Hasil: Ditemukan 14 artikel yang sesuai, terdiri dari 6 artikel membahas terkait suplementasi vitamin D dan 8 artikel lainnya membahas suplementasi seng. Sebagian besar studi menunjukkan bahwa suplementasi vitamin D dan seng memberikan dampak signifikan terhadap peningkatan TB/U dan BB/U, terutama pada anak dengan status gizi buruk atau defisiensi zat gizi mikro. Dosis pemberian vitamin D3 berkisar antara 100.000-200.000 IU tiap 2-3 bulan atau 10 mcg/hari (400 IU), sedangkan untuk seng sebanyak 10 mg/hari selama minimal 6 bulan. Efek samping suplementasi jarang ditemukan.

Simpulan: Suplementasi vitamin D dan seng memiliki dampak positif yang signifikan dalam mendukung proses pertumbuhan anak balita, terutama dalam keadaan defisiensi.

Kata kunci: Suplementasi, vitamin D, seng, pertumbuhan balita

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The Effect of Vitamin D and Zinc Supplementation on Growth in Children Under 5 Years Old: Literature Review

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ABSTRACT

Background: Micronutrient deficiencies such as vitamin D and zinc are one of the causes of stunted growth. Vitamin D and zinc supplementation is one of the interventions to overcome the growth problems in children under 5 years old.

Objective: Determine the effect of vitamin D and zinc supplementation on growth in children under 5 years old based on the literature review method.

Methods: This study used a literature review method with a narrative review approach. The article search strategy was carried out on Google Scholar, Science Direct, and PubMed databases with keywords and boolean operators. The inclusion criteria of the selected articles were in the range of 2015-2025, discussing vitamin D and zinc supplementation on children growth in anthropometric indicators of body weight and height, and written in English or Indonesian with an intervention and observational research design.

Results: There were 14 suitable articles found, consisting of 6 articles discussing vitamin D supplementation and 8 articles discussing zinc supplementation. Most studies showed that vitamin D and zinc supplementation had a significant positive effect on increasing height-for-age (HAZ) and weight-for-age (WAZ), particularly in children with malnutrition or micronutrient deficiencies. Effective doses of vitamin D ranged from 100,000 IU to 200,000 IU every 2-3 months or 10 mcg/day (400 IU), while zinc supplementation at dose 10 mg/day for minimum duration of 6 months. Side effects were rarely reported.

Conclusion: Vitamin D and zinc supplementation has a significant positive impact in supporting the growth process of children under five years of age, especially in children with vitamin D and zinc deficiency.

Keywords: supplementation, vitamin D, zinc, child growth

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