



Original Article

## Oral vitamin B12 treatment is effective for children with nutritional vitamin B12 deficiency

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Abstract

Aim

Despite being one of common preventable deficiency disorders, vitamin B12 (vit-B12) deficiency can lead to serious health problems both in children and adult. The familiar treatment through parenteral route for vit-B12 deficiency frequently leads to poor adherence, and adequate response to treatment has lead to interest in oral supplementation. This study investigates the efficacy of oral vit-B12 treatment in children with nutritional vit-B12 deficiency.

Methods

Forty-seven children (from 1 month to 17 years) with vit-B12 levels below 200 pg/mL were allocated either of two study groups: Group 1 (1–20 months) and Group 2 (6–17 years) which were subdivided according to the duration of treatment (Group 1A&2A: 4 months; Group 1B&2B: 8 months of 1000 µg oral vit-B12, every day for a week, every other day for 2 weeks, 2 days a week for 2 weeks, then once a week).

Results

Vit-B12 levels among all groups were significantly restored following high oral vit-B12 doses ( $P = 0.013$ ,  $P = 0.001$ ), the regimen being more effective in Group1A and Group1B. Correlation analysis of serum vit-B12 levels and age at the end of treatment revealed a decreasing trend with the increasing patient age (corelation respectively  $-65.2\%$ ,  $P = 0.08$ ;  $-35.4\%$ ;  $P = 0.25$ ).

Conclusion

Data from this study indicate that oral vit-B12 (1000 µg) for 4 months is effective, giving clinicians more choice, for treatment of children with nutritional vit-B12 deficiency. However, despite this high dose, lower levels were achieved in older children indicating the necessity of dosage adjustment in accordance with body weight.