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Role of multiple micronutrients in treatment of iron deficient anemic children

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Background: Iron deficiency anemia (IDA) is more likely to be associated with other multiple micronutrient (MMN) deficiencies.

Aim: Assessment of changes in hemoglobin levels, serum ferritin, retinol and iron that would come out as a result of the intervention.

Methods: This randomized controlled trial included 90 school children with IDA who were randomly allocated into 3 treatment groups. Group-A and B received oral iron and oral iron+multiple micronutrients (MMN) respectively for three months. Group-C (the control group) received nothing.

Results: Hemoglobin levels were increased significantly in group-A (11.8 g/L) and group B (15.4 g/L) and insignificantly in the control group (2.1 g/L). Group-B had the highest increase in hemoglobin levels.

Conclusion: Supplementation with multiple micronutrients rather than just iron is a rational treatment strategy for IDA children.

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Metabolic benefits of 6-month thiamine supplementation in patients with and without diabetes mellitus type 2

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Thiamine deficiency has been documented to be prevalent in patients with diabetes mellitus, and correction of thiamine deficiency in this population may provide beneficial effects in the improvement of several cardiometabolic parameters, including prevention of impending complications secondary to chronic hyperglycemia. In this interventional study, we aim to determine whether thiamine supplementation is associated with cardiometabolic improvements in patients with diabetes mellitus type 2 (DMT2). A total of 86 subjects (60 DMT2 and 26 age- and BMI-matched controls) were included and were given thiamine supplements (100 mg/day) for 6 months. Anthropometrics and metabolic profiles were measured routinely. Serum thiamine and its derivatives were measured using high performance liquid chromatography. In all groups there was a significant decrease in total cholesterol after 3 months ($p=0.03$) as well as HDL-cholesterol after 6 month thiamine supplementation ($p=0.009$). Significant improvements were also observed in the mean serum levels of creatinine ($p=0.001$), as well as thiamine and its derivatives in both serum and urinary thiamine levels across follow-up visits (p -values 0.002 and <0.001 , respectively). In the DMT2 group, improvements were observed in lipid profile [mean serum LDL- and total cholesterol with p -values 0.008 and 0.006, respectively], serum thiamine ($p<0.001$), TMP ($p<0.001$), TDP ($p<0.001$), urinary thiamine ($p<0.001$) and serum creatinine ($p<0.001$). Thiamine supplementation is a promising adjuvant therapy for patients with DMT2. Longer clinical trials are needed to determine its protective effect in DMT2 complications.

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