QUESTION: In stunted and non-stunted infants, do zinc supplements promote growth?

Design
Randomised (unclear allocation concealment*), blinded (investigators and field assistants),* placebo controlled trial with 6 months of follow up.

Setting
Dodota Sire district, central Ethiopia, Africa.

Patients
100 stunted (length for age Z score [LAZ] < -2) and 100 non-stunted (LAZ > -2) infants who were 6 to 12 months of age. Inclusion criteria were apparent health and willingness of participation of mothers. Exclusion criteria were diagnosis of intestinal parasites, 90% (mean age 10 mo, 53% boys) of stunted and 94% (mean age 9 mo, 53% girls) of non-stunted infants completed the 6 months follow up.

Intervention
Stunted and non-stunted infants were matched by sex, age, and recumbent length and allocated within the pair to zinc supplement, 10 mg of zinc sulfate in 3 ml of syrup, or placebo syrup. Syrup was given by trained field assistants every morning after the infants were breast fed (but before weaning foods were fed) for 6 days per week for 6 months.

Main outcome measures
Change in anthropometric measurements: recumbent length (growth), weight, knee-heel length, mid-upper arm circumference, and triceps skinfold.

Main results
Stunted infants who received zinc supplementation had a 2.5-fold greater increase in growth than stunted infants who received placebo (p < 0.001); the increase in growth in non-stunted zinc supplemented infants did not reach statistical significance (table). Zinc had a greater stimulatory effect in stunted infants than in non-stunted infants (p < 0.001). Weight gain did not differ between groups among stunted and non-stunted infants (table). Changes in knee-heel length, mid-upper arm circumference, and triceps skinfold thickness did not reach statistical significance between groups.

Conclusions
In stunted infants, zinc supplements increased growth. The effect of zinc was greater in stunted than in non-stunted infants.

*See glossary.

Zinc supplements increased growth more in stunted infants than in non-stunted infants


Main results

<table>
<thead>
<tr>
<th>Outcomes at 6 months</th>
<th>Stunted</th>
<th>Non-stunted</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Zinc</td>
<td>Placebo</td>
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<tr>
<td>Increase in length (cm)</td>
<td>7.0</td>
<td>2.9</td>
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<tr>
<td>Increase in weight (kg)</td>
<td>1.73</td>
<td>0.95</td>
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</tbody>
</table>

†CI defined in glossary and calculated from data in article.
‡Not significant.