

Evidence Update

Summary of a Cochrane Review

Tuberculosis Series

Should people on TB treatment be given nutritional supplements?

Data on the effects of food or micronutrients on illness recovery are limited in patients with TB.

Background

People with TB lose weight and may have deficiencies of micronutrients. This in turn may delay recovery from the disease.

Inclusion criteria

Studies:

Randomized controlled trials.

Participants:

People being treated for active tuberculosis.

Intervention:

Intervention: any oral nutritional supplement given for at least four weeks.

Control: no nutritional intervention, placebo or dietary advice only.

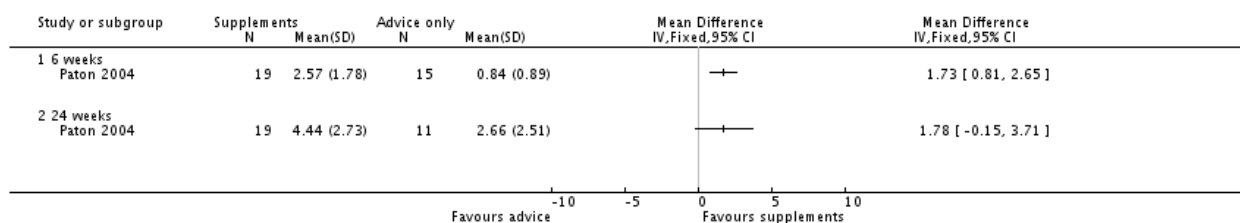
Outcomes:

Death, body weight or weight change, sputum test positive at follow-up.

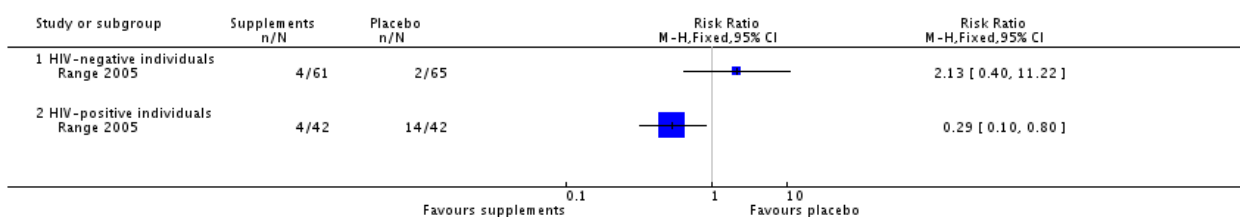
Results

- Twelve trials, involving 3393 participants, were included; five were adequately concealed.
- Underweight adults with tuberculosis given a high-energy supplement gained more weight at six weeks compared with those receiving dietary advice only (mean difference 1.73 kg, 95% confidence interval 0.81 to 2.65; 34 participants, 1 trial).
- Vitamin D was associated with fewer sputum positive cases at six weeks compared to placebo (relative risk 0.33, 95% CI 0.14 to 0.76; 226 participants, 2 trials), but by eight weeks there was no significant difference.
- HIV-positive and HIV-negative participants had no differences in number of deaths between multiple micronutrient supplement and control groups (2190 participants, 3 trials). In HIV-positive participants who became sputum-test negative at one month, there were fewer relapses to sputum positive by eight months (RR 0.34, 95% CI 0.12 to 0.90; 241 participants, 1 trial).
- HIV-positive participants taking multiple micronutrients plus additional zinc had fewer deaths after eight months of treatment than the placebo group (RR 0.29, 95% CI 0.10 to 0.80; 84 participants, 1 trial). There was no difference in HIV-negative individuals. Participants taking multiple micronutrients plus zinc also gained more weight at seven months (MD 2.37 kg, 95% CI 2.21 to 2.53; 192 participants).
- In one trial, participants receiving vitamin A plus zinc had a higher body weight at six months compared with placebo (MD 3.10 kg, 95% CI 0.74 to 5.46; 80 participants).
- Trials assessing a high cholesterol diet, zinc alone, vitamin A, arginine, and vitamin A plus selenium showed no significant effect of supplementation.

High energy oral supplements vs dietary advice: change in body weight



Zinc plus multiple micronutrients vs placebo: death at eight months



Authors' conclusions

Implications for practice:

High energy supplements and some combinations of zinc with other micronutrients may help people being treated for tuberculosis to gain weight. A combination of zinc and multiple micronutrients may prevent deaths in people who are also HIV-positive.

Implications for research:

Further trials to assess the effect of a range of nutritional supplements for people being treated for active tuberculosis living in areas where HIV/AIDS is prevalent are needed; several such trials are currently being undertaken.