

# 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.

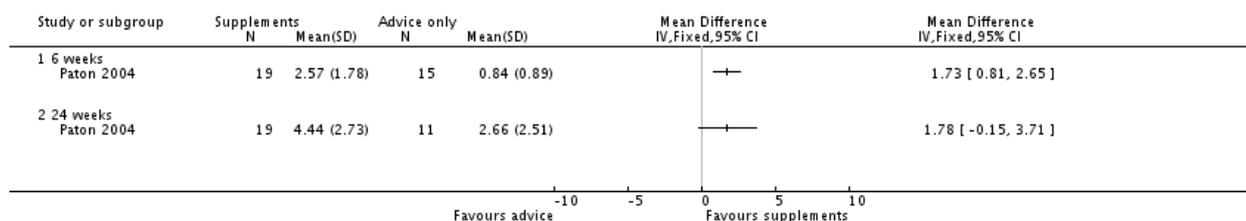
### Outcomes:

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

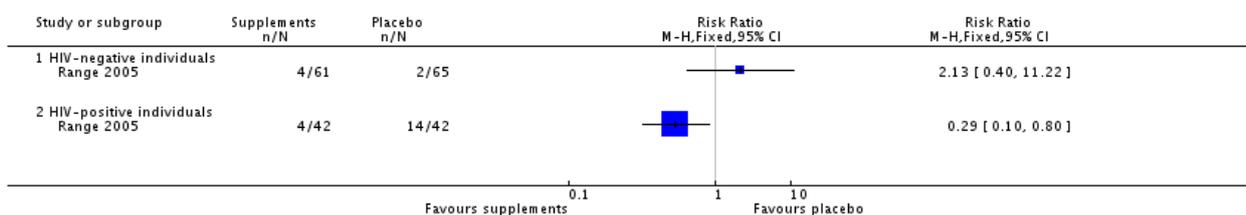
## Results

- 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.