REVIEW OF THE IMPORTANCE OF NUTRITION SUPPORT DURING THE TREATMENT OF TUBERCULOSIS TO INCREASE TREATMENT OUTCOMES

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DOI: 10.5937/BatutPHCO24035S

Background: Despite increased attention and proven methods of rapid diagnosis and treatment of tuberculosis (TB), undernutrition related to TB continue to be the major public health challenge.

Methods and Objectives: Narrative review based on literature search of PubMed electronic database to identify articles focused on increasing understanding of the associations between nutrition and TB in the last five years. The terms 'tuberculosis' and 'nutrition' were used. Primary search process culminated in a total return of 1159 documents, while random sample of 10% have been reviewed.

Results: The majority of articles showed that undernutrition increases the risk of TB and vice-versa and is highly prevalent among TB patients. It has also been demonstrated that undernutrition is a risk factor for progression from TB infection to active disease and that undernutrition at the time of diagnosis of active TB is a predictor of increased risk of death and TB relapse. Related to macronutrient supplementation, small trial from India find a significant benefit on completion of TB treatment, and sputum conversion, but these findings have not been confirmed in larger trials. The provision of free food or high-energy nutritional products may produce a modest increase in weight gain during TB treatment. Five trials assessed multi-micronutrient supplementation in doses up to 10 times the dietary reference intake, and 12 trials assessed single or dual micronutrient supplementation. There is insufficient evidence to judge whether multi-micronutrients have a beneficial effect on mortality in HIV-negative patients with TB but the available studies show that multi-micronutrients have little or no effect on mortality in HIV-positive patients with TB. Multiple micronutrient supplements may have little or no effect on the proportion of TB patients remaining sputum positive during the first 8 weeks and probably have no effect on weight gain during treatment. Plasma levels of vitamin A increase following initiation of TB treatment, regardless of supplementation. In contrast, plasma levels of zinc, vitamin D and E, and selenium may be improved by supplementation but a consistent beneficial effect on outcomes of TB treatment or nutritional recovery has not been demonstrated.

Conclusions: There is insufficient evidence on how routinely providing medical nutrition support independently affect TB treatment outcomes. Further well-designed studies are needed to prove or exclude associations.

Keywords: nutrition, tuberculosis, assessment, treatment outcomes, medical nutrition support