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The Effect of Synbiotic and Micronutrients Supplement on Improving Nutritional Status among Treated Adult Pulmonary Tuberculosis Patients Who Suffered Chronic Energy Deficiency (CED). Jurnal Gizi Indonesia 2011; vol. 34 no.1

Abstract :

Background: Pulmonary tuberculosis patients are eventually poor nutritional status and lacking immune response. Chemotherapy using multi-drugs-TB is effective way to treat the disease, however probably there is negative effect on imbalance gut microflora. Inflammation due to pulmonary tuberculosis infection down-regulated nutrients synthesis and lowering appetite, therefore nutrient deficiency occurred.

Objectives: The study objective is to analyze the efficacy of synbiotic and micro-nutrients supplements on nutritional status among treated adult pulmonary tuberculosis (TB) patients who suffered chronic energy deficiency after 2 months intervention.

Methods: A double-blind randomized treatment-control trial design was used to carry out the study at two community TB Centers in Bandung and Garut. Forty three subjects suffered CED were selected from recruited 76 new cases of pulmonary TB patients aged 20-45 years old divided into two groups; the first group treated with milk based protein, synbiotic and micronutrients supplements (MSM); and the second group treated with milk based protein only (MO) as a control group. All patients received a standard TB therapy. Parameters of nutritional status (body weight, BMI, fat mass, hemoglobin, serum vit. A and serum zinc) were collected at baseline, after 1, 2 months of intervention. Data were analyzed the difference between and within group using parametric and non parametric statistic.

Results: The results showed that in each group the end line nutritional status parameters were significantly better than the baseline nutritional status parameters ($p < 0.05$), but not significantly different between the two groups ($p > 0,05$).

Conclusions: There was effect of the each supplement (MSM and MO) to improved nutritional status. A longer study with no milk based protein control group is required.

Key words: micronutrients, immunity, synbiotic, tuberculosis.