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Abstract

Spirulina, a photosynthetic blue-green alga (cyanobacterium), has drawn attention as a viable food supplement due to its suitable nutrient content. Despite its suitable nutrient composition, the bioavailability of nutrients Present in Spirulina is not well reported. In this study, the bioavailability of nutrients present in locally cultivated Spirulina platensis was evaluated by using in vivo method. A total of 54 mice, 5-8 weeks age were used. The mice were randomly divided into three groups. Group 1 (n = 18) served as a control and received a basal diet. Group 2 (n = 20) served as a test and received Spirulina blended with a basal diet. Group 3 (n = 16) serves as a standard and received a basal diet supplemented with nutritional supplements. The study revealed that test diet had apparent absorption of protein 67%, calcium 50.6%, iron 43.8%, zinc 42%, and vitamin A 56.5%, which was higher ($p < 0.01$) than control diet but similar ($p > 0.05$) with standard diet. Given the higher bioavailability of nutritional supplements mixed into the standard diet, the resemblance in nutrient absorption between test and standard diets illustrated that Spirulina mixed into the test diet also has higher nutrient absorption.

Keywords:

Nutrient absorption; Mice; Spirulina platensis.