

The Effect of Double Fortification of Iron and Zinc of Synbiotic Fermented Milk on Growth of Rat

Authors : Endri Yuliati, Siti Helmyati, Narendra Yoga Hendarta, Moh. Darussalam, Maharani Jibbriella, Fauziah Oktavira Hayati Fakhruddin, Faisal Hanin

Abstract : Background: Both of iron and zinc has vital role in growth. The prebiotics fermentation by probiotics lower the acidity of intestine thus increase mineral absorption. Objective: To know the effect of double fortification of synbiotic fermented milk on growth. Methods: An Indonesian local isolate, *Lactobacillus plantarum* Dad-13 and Fructo-oligosaccharides (FOS) were used in making synbiotic fermented milk. It, then was double fortified with 100 ppm Fe and 50 ppm Zn. A total of 15 Wistar rats were divided into 3 groups and given: synbiotic fermented milk (CO), synbiotic fermented milk with NaFeEDTA and Zn acetate (NZ) and synbiotic fermented milk with Fe gluconate and Zn acetate (FZ) every day for one month. Body weight and body length were measured before, every week and after intervention. Results: Body weight and body length were similar at baseline among three groups ($p > 0.05$). All groups showed similar growth after intervention, from 62,40 + 6,1 to 109,0 + 9,0; 62,0 + 7,9 to 110,3 + 14,2; and 64,40 + 4,7 to 115,1 + 7,7 g for CO, NZ, and FZ, respectively ($p > 0.05$). The body length after intervention was also similar ($p > 0.05$). Conclusion: Fortification of iron and zinc did not modify effect of synbiotic fermented milk on growth.

Keywords : probiotics, prebiotics, iron, zinc, growth

Conference Title : ICNFF 2015 : International Conference on Nutraceuticals and Functional Foods

Conference Location : Jeddah, Saudi Arabia

Conference Dates : January 26-27, 2015