ABSTRACT

Objective: to analyze the effect of zinc supplement and Biscuit-MP ASI for the nutritional status and hair zinc concentration for under five children

Design: Experimental study with double blinded research with giving duration was 90 days

Setting and Subject: conducted in the working area community health center Kertosono, Nganjuk regency, East Java. Sample of research was children 12-60 months who have under nutrition status with index HAZ < -3 SD and Zinc hair concentration < 150 μg/Kg that was divided into two groups. Total subject was 26 under five children that divided into two groups with 13 under five children. One was treatment group who received breast milk supplemented with biscuit and zinc syrup and the other was control group who received biscuit-MP ASI and placebo syrup. Each group was that collected from simple random sampling.

Results: There were significant differences of body weight in the treatment group and control group before and after research, using paired t test (p=0.000). There were significant differences of body height in the treatment group and control group before and after research, using paired t test (p=0.000). There were significant differences of index HAZ in the treatment group and control group before and after research with paired t test (p=0.008 and p=0.031). There were significant differences of index WAZ in the treatment group before and after research with paired t test (p=0.027). There were significant differences of nutrition status based on index BW/BH in the treatment group before and after research with Wilcoxon Signed Ranks Test (p=0.011). There were significant differences of category hair zinc concentration in the treatment group before and after research with McNemar Test (p=0.031).

Conclusion: Supplementation can increase the body weight and body height both of two groups, but nutrition status in the treatment group increased highly than in the control group. Hair zinc concentration in the treatment group increased highly than in the control group.

Keywords: Malnutrition, zinc sulfate, biscuit, nutritional status, concentrations hair zinc.