Role of Zinc against the Taste Function and Changes in Body Weight of Less Nutrition Toddlers with Low Levels of Albumin in Bojonegoro

Bojonegoro is part of the province of East Java which has a wide area of 2307.06 km², divided into 27 districts and 430 villages/urban villages, with a population of 1,209,973 people (SP 2010). Based on Riskesdas data (2007), prevalence of malnutrition is 9.9% and 3.3% severe malnutrition. Zinc supplementation was a way to provide additional zinc. The advantage of using this method was the cost involved was relatively cheap compared to provide a number of foods rich in zinc at the target. To meet the nutritional needs required the normal function of taste in the mouth cavity. A substance could only be enjoyed when it was dissolved in saliva. Through the taste pore of a substance could reach the taste buds and attached to the receptors of taste. Changes could occur in the saliva of patients with deterioration of consciousness related to decreased taste and zinc concentration of specific proteins in the saliva parotid gland, including gustin. Disturbances in taste could cause reduced appetite, which can lead to weight loss, and can be a symptom of a disease that has not been detected. Weight loss described the amount of protein, fats, water and mineral in bone. Weight loss was one parameter that gave the body. Body mass was very sensitive to sudden changes. This study was a research experiment conducted in May-July 2011. The purpose of this study was to determine the effect of zinc on the function of taste and changes in body weight in less nutrition toddlers with low albumin levels. The population was the children aged 4-5 years in the working area of Puskesmas Sumberrejo Bojonegoro. Samples were taken from a population with inclusion criteria. Then those placed into groups by random allocation. The results of this study showed no significant differences in toddlers taste function, this could be seen from the results taste sweet taste acuity before and after treatment. Friedman test results between taste acuity before zinc supplementation, 1 month after supplementation, and 2 months after supplementation in the treatment group showed no significant difference with p value = 0.000, whereas in the control group no significant difference with p value = 0.050. Toddlers Weight was also changing, that there were significant differences between the difference in weight gain between 1 month after supplementation against before zinc supplementation with p-value = 0.007, difference in weight gain between 2 months after zinc supplementation with 1 month after zinc supplementation and difference in weight gain between 2 months after supplementation with before zinc supplementation has the same p-value was 0.000. Conclusion: there was effect of zinc supplementation on taste function and changes in body weight of less nutrition toddlers with low albumin levels.
ABSTRACT

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This research was experimental research design with pretest-posttest control group design with continuous measurements. The purpose of this study was to investigate the effect of zinc supplementation on taste function and changes in body weight of less nutrition toddlers with low albumin levels. Techniques of data collection were using questionnaires, food recall, food frequency questionnaire, anthropometry, blood sampling and laboratory examination. The population was children aged 4-5 years. Samples were taken from a population with inclusion criteria. Then those placed into groups by random allocation. The results of this study showed no significant differences in toddlers taste function. This could be seen from the results taste sweet taste acuity test before and after treatment. Chi-square test results showed that there was no significant difference between taste acuity before zinc supplementation against 1 month and 2 months after supplementation in both treatment and control groups with successive values are 1.000, 0.317, and 0.155. While the result of Multivariat test in treatment group showed that there was no significant difference in weight between before zinc supplementation against 1 month and 2 months after zinc supplementation with p value was 0.113. And there was no significant difference neither in control group with p value was 0.965. Conclusion: there was effect of zinc supplementation on taste function and body weight changes in malnutrition toddlers with low albumin levels.

Keywords: zinc supplementation, taste function, and changes of body weight.