

## **PERBEDAAN KADAR CRP DAN KEJADIAN INFEKSI PADA BALITA GIZI KURANG USIA 4-5 TAHUN SETELAH PEMBERIAN SENG**

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ZINC SUPPLEMENTATION

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### **SUMMARY**

#### **The Difference of CRP Levels and Incidence of Infection among Malnutrition Toddlers Age 4-5 Years after Zinc Supplementation**

Puskesmas Sumberrejo is located in North of Kanor District, the South of District Kedung Adem, East of Puskesmas Mejuwet working area, and west of district Balen. Puskesmas Sumberrejo working area covered 13 villages Sumberrejo, and in its implementation is assisted by Puskesmas Sumberrejo two supporting puskesmas. Zinc supplementation is a way to provide additional zinc. The advantage of using this method is relatively inexpensive cost compared to providing amount of zinc riched foods on targets. CRP is one of examples of acute phase proteins, and included in group of protein that would be increasing while accute infection occurs. CRP may increase 100 times higher and non-specific immunity that within  $Ca^{++}$  help can bind to various molecules like fosforilkolin that was found in the surface of bacteria or fungi, thus activating the complement (classical path). Zinc supplementation study with double blind to the poor baby and children showed improvement of growth, becaus of immune system improvement prevent infections such as diarrhea and acute respiratory tract infections such as pneumonia mostly happen to children. Zinc supplementation could reduce the frequency and severity of diarrhea. This study was the experimental study implemented on June - July 2011. The purpose of this study was to determine differences of CRP levels and incidence of infection among malnutrition toddlers after zinc supplementation. The population was toddler age 4-5 years. Samples were taken from the population in inclusion criteria. Then they were placed into groups using random allocation. This study showed there was significant difference in zinc levels before and after treatment in treatment group, but there was no significant difference in the control group. CRP levels showed no significant difference before and after treatment. While the incidence of infection showed there was significant difference in the incidence of infection before and after treatment in treatment group, but there was no significant difference in the control group. Zinc levels after treatment have increased in general in the treatment group and Control group. CRP levels decreased after treatment in general in the treatment group and Control group. Incidence of infection after treatment decreased number and frequency generally low number of at treatment group while the control group tend to be cheaper increasing number of frequencies. Zinc supplementation can increase the levels of zinc reduced the incidence of infection toddler nutrition less at. Conclusion: The administration of zinc can increase the levels of zinc cheap lower frequency of occurrence of infection. But the provision of zinc should also follow the consumption of Food Fair, Good macro and micro nutrients nutritional substances. Nutrients work together because with a still others, so not stand alone.

**ABSTRACT****The Difference of CRP Levels and Incidence of Infection among Malnutrition Toddlers Age 4-5 Years after Zinc Supplementation**

Low plasma zinc levels can be used to predict the development of respiratory tract infections and diarrhea on malnutrition population. This research is experimental research with pretest-posttest control group design. The purpose of this study was to determine differences of CRP levels and incidence of infection among malnutrition toddler after zinc supplementation. Data collection techniques were questionnaire, food recall, food frequency questionnaire, anthropometry, blood sampling, and laboratory tests. The population was toddler age 4-5 years. Samples were taken from the population in inclusion criteria. Then they were placed into groups using random allocation. The result of study showed there was no significant differences in zinc levels before and after treatment ( $p=0,005$ ) in treatment groups, and in the control group neither ( $p=0.084$ ). There was no significant difference in CRP levels before and after treatment ( $p=0,409$ ) in treatment groups and  $p=0.177$  in the control group. There was no significant differences in IgA levels after and before treatment in treatment group ( $p=0.126$ ) and in the control group neither ( $p=0.199$ ). There was significant difference in incidence of infection before and after treatment in treatment group ( $p=0,005$ ), but there was no significant difference in the control group ( $p = 0752$ ) instead. Conclusion: zinc supplementation can increase zinc levels and reduced the incidence of infection among malnutrition toddlers nutrition.

Keywords: zinc supplementation, CRP level, incidence of infection