

PENGARUH ZINC SULPHAT TERHADAP PENINGKATAN JUMLAH LIMFOSIT
T – CD4 PADA PASIEN HIV/AIDS DI UPIPI RSUD Dr SOETOMO SURABAYA

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SUMMARY

**Effect of Zinc Sulphat Against Increased Number of lymphocytes - CD4 in HIV/
AIDS patients in ICUID Dr. Soetomo hospitals Surabaya**

HIV/AIDS epidemic in nearly all provinces in Indonesia, accompanied by a considerable gap in the range of characteristics, geographical, health system capacity, and available resources. HIV/AIDS impact on health, nutrition, food security and socio-economic development of society. HIV/AIDS epidemic often occurs in people of low nutrient levels. Infection with HIV/AIDS will affect the nutritional status of people living with HIV and the immune system. People With HIV/AIDS requires a nutrient-containing macronutrient (carbohydrate, protein, fat) and micronutrients (vitamins and minerals) in sufficient quantities. Zinc supplementation is a way to provide additional zinc minerals from the foods we consume daily. Cost required is relatively cheaper than providing a number of foods rich in zinc. Giving zinc among AIDS patients has the advantage that much, because Zinc is an essential component of the immune system and vital for the development of non-specific immunity and cell mediated immunity (especially CD4 cells). Zinc has an important role in HIV because the virus requires zinc for gene expression, replication, and integration and inhibit tumor necrosis factor (TNF), a cytokine that is important to trigger the process of wasting in HIV. Experimental studies with research designs Pretest Posttest Randomized Control Group Design was carried out in the working area ICUID (Intermediates Care Unit of Infectious Diseases) Dr. Soetomo Hospital Surabaya in June until August 2011 with the provision of treatment in Double Blind. The research objective is to analyze the effect of zinc sulphat to the amount of T lymphocytes - CD4 HIV/ AIDS. The study population was all HIV/AIDS outpatient ICUID Dr. Soetomo Hospital Surabaya that has been getting ARVs. The sample consisted of 26 HIV/AIDS patients are taken at random from the sub-populations and meet the inclusion criteria who received ARVs in the past year. 53.85% sample of male and 46.15% female samples. The samples were divided into two groups, namely the treatment and control groups. Based on CD4 cell counts in samples before and after the intervention when analyzed by t test statistic - 2 independent samples showed no significant difference in CD4 counts between treatment groups and control groups either before the intervention ($p = 0.098$) and after the intervention ($p = 0.168$). This means that the CD4 cell count between the two groups of research respondents considered homogeneous (relatively similar). While the results of paired-samples t test showed a CD4 cell count before and after the intervention of zinc there is a difference ($p = 0.000$). This means is a significant increase in CD4 cell counts after the intervention than before

intervention. Most respondents in the treatment group increased CD4 cell counts after a given intervention, while respondents in the control group most of the CD4 cell count decreased. When viewed on the difference in the amount of increase of CD4 before and after treatment, t-2 test results free sample showed no significant difference increases the difference in CD4 cell counts in treatment group and control group ($p = 0.793$). This means that the average difference in CD4 cell counts in treatment groups were not significantly greater than the difference in the control group. Conclusion: There is a significant increase in the number of T lymphocytes - CD4 sulphat zinc after intervention compared with the number of CD4 T-lymphocyte zinc sulphat before intervention in patients with HIV/AIDS in ICUID Dr. Soetomo Hospital Surabaya

Key words: zinc supplementation, CD4 count, and immune system

ABSTRACT

Effect of Zinc Sulphat Against Increased Number of lymphocytes - CD4 in HIV/AIDS patients in ICUID Dr. Soetomo Surabaya hospitals

HIV/AIDS impact on health, nutrition, food security and socio-economic development community and will affect the immune system of people living with HIV. People With HIV/AIDS requires a macronutrient-containing nutrients and micronutrients in sufficient quantities. Zinc supplementation is a way to provide additional zinc minerals from the foods we consume daily. Zinc is an essential component of the immune system and vital for the development of non-specific immunity and cell mediated immunity (especially CD4 cells). This study is a research Experimental research design Randomized Control Group Pretest Posttest Design, with the provision of treatment in Double Blind. Goal of research is to analyze the effect of giving to the amount of zinc sulphat T lymphocytes - CD4 HIV/AIDS. The study population was all patients with HIV/ AIDS outpatient ICUID Dr. Soetomo Hospital Surabaya that has been getting ARVs. The sample in this study consisted of 26 patients with HIV/AIDS screening results are taken at random from the sub-populations and meet the inclusion criteria who received ARVs in the past year. Study sample consisted of two groups, namely the treatment and control groups. The results showed most of the samples in the treated group increased CD4 cell counts after the intervention were given zinc. Of paired-samples t test CD4 counts before and after intervention zinc showed no significant difference ($p = 0.000$). When viewed on the difference in the amount of increase of CD4 before and after treatment, t-2 test results free sample showed no significant difference increases the difference in CD4 cell counts in treatment group and control group ($p = 1.000$). This means that the average difference in CD4 cell counts in treatment groups were not significantly greater than the control group. Conclusion: There is a significant increase in the number of T lymphocytes - CD4

after intervention with zinc as compared with before the intervention sulphat zinc in patients with HIV/AIDS in ICUID Dr. Soetomo Hospital Surabaya

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