

## Pengaruh suplementasi vitamin B12 terhadap jumlah CD4 penderita HIV di RSUPNKM Jakarta = Effect of vitamin B12 supplementation on CD4 count of HIV patients at RSUPNKM Jakarta

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### Abstrak

#### <b>ABSTRAK</b>

Tujuan penelitian ini adalah untuk mengetahui suplementasi vitamin B12 pada penderita HIV terhadap jumlah CD4, sehingga diharapkan dapat mencegah progresivitas penyakit HIV. Penelitian ini merupakan uji klinis tanpa pembandingan, terhadap 15 orang pasien HIV di poliklinik UPT HIV RSUPNKM Jakarta mulai satu Februari sampai dengan 20 April 2010. Subyek mendapat suplementasi vitamin B12 (metilkobalamin) 1000 pg/hari, peroral, selama enam minggu. Data dikumpulkan meliputi data demografi (usia dan jenis kelamin), adanya hepatitis gastroenteritis dan infeksi akut selama penelitian, status gizi (indeks massa tubuh), analisis asupan zat gizi dengan metode had record 3 x24 jam dan FFQ semikuantitatif kadar vitamin B12 serum dan jumlah CD4. Analisis data menggunakan uji t berpasangan atau Wilcoxon dengan batas kemaknaan  $p < 0,05$ . Sebanyak 15 subyek mengikuti penelitian sampai selesai. Setelah enam minggu perlakuan, didapatkan adanya peningkatan yang bermakna terhadap kadar vitamin B12 serum awal 270,71 ± 71,04 pmol/L, pada akhir perlakuan 419,11 ± 122,95 pmol/L meningkat signifikan ( $p > 0,001$ ). Terdapat 11 dari 15 subyek mengalami peningkatan jumlah CD4 pada akhir penelitian. Median jumlah CD4 subyek pada awal penelitian 143 (23 - 372) sel/pL dibandingkan dengan median pada akhir perlakuan 166 (18 - 428) /pL, didapatkan perubahan signifikan ( $p = 0,031$ ). Uji korelasi Spearman, tidak menunjukkan korelasi bermakna antara perbedaan jumlah CD4 dengan perbedaan kadar vitamin B12 serum ( $r = -0,375$ ,  $p = 0,168$ ). Dengan demikian dapat disimpulkan bahwa, walaupun tidak terdapat korelasi pada perbedaan jumlah CD4 dan kadar vitamin B12, namun suplementasi vitamin B12 menggunakan metilkobalamin 1000 pg/hari, peroral, selama enam minggu pada penderita HIV dapat meningkatkan secara bermakna kadar vitamin B12 serum dan terdapat perubahan bermakna jumlah CD4.

#### <hr><i><b>ABSTRACT</b></i>

The aim of this study is to find the effect of Vitamin B12 supplementation in HIV patients on the counts of CD4 so it would prevent the HIV progressiveness in RSUPNKM Jakarta. It is an one-armed clinical trial in 15 HIV patients in UPT HIV RSUPNKM Jakarta. The subjects received vitamin B12 (methylcobalamin) supplementation 1000 ug/day, per oral, for six weeks. The data was collected included demographic data (age and sex), the presence of hepatitis co-infection and gastroenteritis, and acute infection during nutritional status (body mass index), nutrition intake analysis with 3 x24 hours food record method and semi-quantitative FFQ, the level of serum vitamin B12 and CD4 counts. The study used paired t-test or Wilcoxon with significant value  $p < 0,05$ . There were 15 subjects who completely participated. After six weeks of intervention, there was a significant increment of early serum Vitamin B12 level which was 270,71 ± 71,04 pmol/L, and at the end of the intervention was 419,11 ± 122,95 pmol/L; increased significantly ( $p > 0,001$ ). There were 11 of 15 subjects who had an increment at the end of the study. Early CD4 counts at the beginning of the study was 143 (23 - 372) cells/pL then changed significantly at the end of the study which was 166 (18 - 428) cells/pl.,  $p = 0,031$ . Though there was no significant correlation in CD4 counts difference

to serum vitamin B12 level ( $r = -0,375$ ,  $p = 0,168$ )- It can be concluded that after six week intervention with vitamin B12 supplementation in methycobalamin form 1000 ug/day, per oral, in HIV patients would significantly increase serum vitamin B12 level and would significantly change CD4 counts, even-though there was no correlation on CD4 difference and vitamin B12 level difference.