

## Pengaruh suplementasi vitamin B6, B12 dan asam folat terhadap kadar homosistein plasma pada lansia

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### Abstrak

Tujuan : Mengetahui pengaruh suplementasi vitamin B6, B12 dan asam folat terhadap kadar homosistein plasma pada lansia dalam rangka mengurangi risiko terjadinya aterosklerosis.

Tempat : Panti werdha Santa Anna - Jakarta.

Bahan dan cara : penelitian eksperimental pra dan pasca suplementasi vitamin B6 (10 mg), B12 (400 µg) dan asam folat (1 mg) yang diberikan per oral, sekali sehari selama 6 minggu, terhadap 10 subyek lansia (60 tahun) yang telah memenuhi kriteria penerimaan dan penolakan. Data yang dikumpulkan meliputi data non nutrisi, data nutrisi, data antropometri, status vitamin B6, kadar vitamin B12 serum dan asam folat serum dan kadar homosistein plasma.

Hasil : Pada pra suplementasi, diketahui prevalensi subyek dengan hiperhomosisteinemia tipe ringan sebesar 70%. Prevalensi defisiensi vitamin B6 (KA ASATE>I,40), 812 (<258 pmol/L) dan asam folat (<15 nmo/L) adalah 30%,30% dan 90%. Prevalensi defisiensi vitamin B6, B12 dan asam folat pada subyek dengan hiperhomosisteinemia adalah 14%, 43% dan 85%. Pada pasca suplementasi didapatkan perbaikan pada seluruh hasil pemeriksaan laboratorium secara bermakna ( $p<0,05$ ) yaitu penurunan KA ASATE 11,68%, kenaikan kadar vitamin B12 serum 111,75%, kenaikan kadar asam folat serum 139,05% dan penurunan kadar homosistein plasma 36,68%.

Kesimpulan : Suplementasi vitamin B6, B12 dan asam folat terbukti secara efektif dan elision dapat memperbaiki status vitamin dan menurunkan kadar homosistein plasma secara bermakna pada seluruh subyek penelitian.

<hr>Objective : To identify the effect of vitamin B6, B12 and folate supplementation to plasma homocysteine concentration of elderly people in respect of minimizing atherosclerosis risks.

Place :Panri werdha Santa Anna - Jakarta.

Materials and Methods :Experimental study of pre and post oral supplementation of vitamin B6 (10 mg), B12 (400 }1g) and folate (1 mg), once a day for 6 weeks continuously applied to 10 elderly subjects NO years) passing through pre-defined inclusion criteria. Relevant information and data was collected through questionnaire, field observation and laboratory measurement which comprise of ages, sex, education, anthropometrics, dietary intake, food frequency amount, food habits, vitamin B6, B12 and folate status and finally plasma homocysteine concentration.

Results :During pre-supplementation, 70% of subjects was classified as moderate hyperhomocysteinemia. Cut off points to define deficiency vitamin status are erythrocyte aspartate aminotransferase activity coefficient (EAST-AC)  $>1,40$  for vitamin B6 , serum vitamin B12 and folate concentrations were  $<258$  pmol/L and  $<15$  nmol/L respectively. The overall prevalence of deficiencies vitamin B6, B12 and folate status were 30%, 30% and 90% respectively. The prevalence of deficiencies vitamin B6, B12 and folate status in hyperhomocysteinemia subjects were 14%, 43% and 85% respectively. During post supplementation, no more vitamins deficiencies subjects was detected. Post supplementation laboratory measurement indicate the following significant improvement ( $p<0,05$ ) on EAST-AC reduction 11,68%, serum vitamin B12 concentration improvement to 111,75%, serum folate concentration improvement to 139,05% and reduction of plasma homocysteine concentration of 36,68%.

Conclusion :Supplementation of vitamin B6, B12 and folate are effectively and significantly improve both vitamin status and plasma homocysteine concentration level of all subjects.