

## Status Vitamin B-12, Asam Folat, Antropometri dan Profil Lipid pada Lanjut Usia Binaan Puskesmas di Jakarta Selatan

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### Abstrak

Tujuan : Untuk mengetahui gambaran status vitamin B-12, asam folat, nutrisi dan profil lipid serum pada lanjut usia, agar dapat dimanfaatkan untuk pertimbangan pencegahan dan terapi penyakit jantung ; coroner (PJK) dan aterosklerosis.

Tempat : Sepuluh puskesmas kecamatan di Jakarta Selatan,

Cara : Studi cross-sectional pada lanjut usia  $\geq$  60 tahun, subjek dipilih secara acak pada tingkat puskesmas. Data yang dikumpulkan meliputi sosio-demografi; pola makan; asupan energi, karbohidrat, lemak, protein, kolesterol, vitamin B-12, asam folat; kadar vitamin B-12; asam folat dan lipid serum, indeks massa tubuh (A.fl) dan rasio LPe-LPa.

Hasil : Prevalensi kekurangan vitamin B-12 serum 34,6% dan kekurangan asam folat serum 34,0%. Konsentrasi vitamin B-12 serum dan asam folat serum pada pria lebih rendah dari wanita. Pada pria dan wanita vitamin B-12 serum kelompok umur  $\geq$  70 tahun lebih rendah dibanding kelompok umur 60-69 tahun. Prevalensi hiperkolesterolemia dan kolesterol LDL serum yang tinggi ( $\geq$  160 mg/dL) adalah, 42,6% dan 24,1%. Pada pria dan wanita kolesterol total serum pada kelompok umur  $\geq$  70 tahun lebih rendah dibanding kelompok umur 60-69 tahun. Di lain pihak kolesterol HDL serum pada pria dan wanita kelompok umur  $\geq$  70 tahun lebih tinggi dibanding kelompok umur 60-69 tahun. Rata-rata IMI' untuk pria 23,9 dan wanita 24,1 dan rata-rata rasio LPe-LPa untuk pria 0,93 dan wanita 0,85. Pada lanjut usia dengan konsentrasi vitamin B-12 serum  $<$  350 pg/mL berkorelasi positif dengan kolesterol HDL serum ( $r = 0,29$ ;  $P = 0,03$ ), tetapi tidak berkorelasi dengan kolesterol total serum, kolesterol LDL serum, rasio kolesterol total/ kolesterol HDL dan rasio kolesterol LDL/kolesterol HDL. Di lain pihak lanjut usia dengan konsentrasi vitamin B-12 serum  $\geq$  350 mg/mL tidak berkorelasi dengan lipid serum.

Kesimpulan : Melalui pendekatan faktor resiko PiK, prevalensi kekurangan vitamin B-12 dan kekurangan asam folat di Indonesia relatif tinggi dan sesuai dengan penelitian-penelitian yang telah dilakukan di negara-negara maju. Interaksi antara vitamin B-12 serum dan lipid serum belum dapat ditentukan sebagai interaksi yang linier tanpa adanya informasi mengenai homosistein serum. Kecukupan vitamin B-12 serum untuk lanjut usia sangatlah esensial untuk memperkecil terjadinya dislipidemia sebagai salah satu faktor resiko PJK.

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<i>Objective : To determine vitamin B-12, folic acid, anthropometric and serum lipid profiles of the Indonesian elderly which are considered to be important in the prevention and treatment of coronary atherosclerosis.

Place : Ten PHC in the district of South Jakarta.

Methods : A cross-sectional study on the elderly ( $\geq 60$  year) was carried out in 10 PHCs, Subjects were drawn randomly at the PHC levels. Data collected were sosio-demography; food habits; intakes of energy, carbohydrate, fat, protein, cholesterol, vitamin B-12, and folic acid; serum vitamin B-12, serum folic acid, serum lipids; anthropometry [body mass index (BMI) and waist-hip ratio].

Results : The prevalence of biochemical vitamin B-12 and folic acid deficiencies were 34.6% and 34.0% respectively. Serum vitamin B-12 and folic acid concentrations of the elderly men were lower than those of the elderly women. Serum vitamin B-12 of both elderly men and women aged  $\geq 70$  years was lower than their younger counterparts aged 60-69 years. The prevalence of hypercholesterolemia and high serum LDL cholesterol ( $\geq 160$  mg/dl.) was 42.6% and 24.1% respectively. Mean serum total cholesterol of both elderly men and women aged  $\geq 70$  years was lower than those aged 60-69 years old. On the other hand, serum HDL cholesterol of both elderly men and women aged  $\geq 70$  years was higher than their younger counterparts aged 60-69 years. Mean BMI values were 23.9 kg/m<sup>2</sup> for the elderly men and 24.1 kg/m<sup>2</sup> for the elderly women. Mean waist-hip ratios for the elderly men and women were 0.93 and 0.85 respectively. In the elderly subjects with low serum vitamin B-12 ( $< 350$  pg/mL), positive correlations were found between serum vitamin B-12 and serum HDL cholesterol ( $r = 0.29$ ;  $P = 0.03$ ), but not with any of serum total cholesterol, serum LDL cholesterol, total cholesterol/HDL cholesterol ratio, and LDL/HDL ratio. On the other hand, in the elderly subjects with normal and high serum vitamin B-12 ( $\geq 350$  pg/mL), there were no correlations between serum vitamin B-12 and serum lipids.

Conclusions: Using the CHD-risk approach, the prevalence of biochemical vitamin B-12 and folic acid deficiencies of the Indonesian elderly was relatively high and comparable with existing studies in developed countries. Without information on serum homocysteine concentration, the interactions between serum vitamin B-12 and lipids were not linear. Clearly, adequacy of serum vitamin B-12 for the elderly is essential to minimize disorder of lipid metabolism as one amongst other CHD risk factors.