

## Hubungan kadar vitamin E serum dengan fungsi kognitif pada lanjut usia = Association between serum vitamin E levels and cognitive function in the elderly / Nova Sri Hartati

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### Abstrak

[<b>ABSTRAK</b><br>

Peningkatan stres oksidatif selama penuaan, dianggap sebagai kontributor utama pada proses neuro-degenerasi dan kehilangan neuron, dan merupakan faktor utama dalam patologi penyakit Alzheimer dan penurunan kognitif terkait usia. Vitamin E merupakan antioksidan potensial yang menjadi fokus utama penelitian gangguan fungsi kognitif dan penyakit Alzheimer. Penelitian potong lintang pada populasi lansia sehat di Kelurahan Cikoko ini dilakukan pada bulan Desember 2014 untuk menilai hubungan antara kadar vitamin E serum dengan fungsi kognitif. Selain itu juga menilai asupan vitamin C dan E dengan metode FFQ. Penilaian fungsi kognitif dengan instrumen MoCA-Ina. Pemeriksaan laboratorium untuk mengetahui kadar vitamin E menggunakan metode HPLC. Data dianalisis dengan uji Mann-Whitney dan Chi-square. Sebagian besar subyek (75,9%) adalah perempuan dengan usia rata-rata 65 tahun. Sementara, kadar rata-rata vitamin E adekuat, yaitu 21,6 mol/L. Hasil penelitian ini menunjukkan bahwa tidak ada hubungan signifikan antara kadar vitamin E serum dengan fungsi kognitif yang dinilai dengan skor MoCA-Ina. Meskipun berat badan normal hingga obes I menunjukkan hubungan signifikan dengan skor kognitif ( $r = 0,17$   $p = 0,026$ ), tetapi tidak ada hubungan signifikan antara asupan vitamin C dengan fungsi kognitif ( $r = 0,19$   $p = 0,15$ ) atau antara asupan vitamin E dengan fungsi kognitif ( $r = 0,04$ ,  $p = 0,72$ ) pada penelitian ini. Kesimpulan, tidak terdapat hubungan antara kadar vitamin E serum dengan fungsi kognitif.

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<b>ABSTRACT</b><br>

Oxidative stress increases during ageing, is considered as a major contributor to neuro-degeneration and neuronal loss, and is a primary factor in the pathology of both Alzheimer's disease and age-related cognitive decline. Vitamin E has been the main focus of investigation in studies of cognitive impairment and alzheimer's disease during aging as a potent antioxidant. A cross-sectional study of an elderly population in Cikoko Regency in December 2014 was conducted to evaluate the association between serum vitamin E levels and cognitive function in elderly. Correlation between intakes of vitamin C and E as well as Body Mass Index to the MoCA-Ina scores were also investigated. Fifty four elderly were included in the study and interviewed for their vitamins intake using a Food Frequency Questionnaires (FFQ). Cognitive function was examined by Montreal Cognitive Assessment Indonesian version (MoCA-Ina). Levels of vitamin E serum were assessed by high performance liquid chromatography. Data were analyzed by using the Mann-Whitney and Chi-square test. The majority of the subjects were female (75.9%) with median age 65 years old. While, the median levels of vitamin E was 21.55 mol/L. The result of this study showed that there was no association between vitamin E level and MoCA-Ina scores. Although normal weight to obese I was significantly associated with cognitive scores ( $r = 0,17$   $p = 0.026$ ), no significant correlation between vitamin C intake and cognitive function scores ( $r = 0.19$   $p = 0.15$ ) or between vitamin E intake and MoCA-Ina scores were found in this study ( $r = 0.04$ ,  $p = 0.72$ ). In conclusion, there is no association between

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