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HEALTHY THAI ELDERLY

SERMKIAT TANUCHIT: CORRELATION OF SERUM RETINOL, ALPHA-TOCOPHEROL AND PLASMA MALONDIALDEHYDE LEVELS IN HEALTHY THAI ELDERLY SUBJECTS. THESIS ADVISORS: SOMSONG LEKHAKULA, M.Sc., PRASERT ASSANTACHAI, MD., PRANEET PONGPAEW, M.Sc., 91P. ISBN 974-663-915-3.

A cross-sectional study of the correlation of serum retinol,  $\alpha$ -tocopherol and plasma malondialdehyde (MDA) levels were conducted in apparently healthy Thai elderly subjects aged 60-95 years. A total of 1602 healthy Thai elderly subjects were comprised of 606 males and 996 females divided into three groups according to their ages (ages: 60-69, 70-79, 80 years and over). This elderly population represented four regions namely: the Northern region (440, Lumpang Province), the Northeastern region (430, Skol-Nakorn Province), the Central region (516, Nakorn Patom Province) and the Southern region (433, Ranong Province). The objectives of this study were to assess the serum retinol, alpha-tocopherol and plasma malondialdehyde (p-MDA) levels and to correlate between serum retinol, alpha-tocopherol and plasma malondialdehyde (p-MDA) levels. These serum vitamin levels were measured by the reverse-phase high performance liquid chromatography (HPLC) method. Plasma MDA levels was determined by spectrophotometric method.

The overall mean of serum retinol and  $\alpha$ -tocopherol levels were 67.9, 635  $\mu\text{g}/\text{dl}$ , respectively. The overall means of plasma MDA was 31.78  $\text{nmol}/\text{dl}$ . The overall mean serum retinol and plasma MDA concentrations did not differ between age groups and gender ( $p < 0.05$ ). A difference in biochemical markers according to gender was observed for  $\alpha$ -tocopherol in that elderly females had higher levels of  $\alpha$ -tocopherol than males. There was a significant correlation between serum retinol and serum  $\alpha$ -tocopherol ( $p < 0.05$ ). No significant correlation between serum  $\alpha$ -tocopherol and plasma MDA levels was found at ( $p > 0.05$ ). There was a positively significant correlation between serum  $\alpha$ -tocopherol levels and age ( $p < 0.05$ ). From results obtained, it is possible to conclude that 47 subjects in this study are at low risk of vitamin A deficiency ( $< 20 \mu\text{g}/\text{dl}$ ), while 565 of them, had lower than acceptable levels of vitamin E ( $< 500 \mu\text{g}/\text{dl}$ ).