Korelasi antara asupan vitamin D dan skor paparan sinar matahari dengan kadar kalsidiol serum pada ibu hamil trimester 1 di Jakarta = Correlation between vitamin d intake and sun exposure score with serum calcidiol on first trimester pregnant women in Jakarta

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Abstrak

Hipovitaminosis D selama masa kehamilan dapat menimbulkan komplikasi selama kehamilan dan pada janin. Selain itu data mengenai status vitamin D pada ibu hamil terutama trimester 1 di Indonesia masih terbatas. Oleh karena itu penelitian ini dilakukan untuk mengetahui kadar kalsidiol serum pada ibu hamil trimester 1 dan korelasinya dengan asupan vitamin D dan skor paparan sinar matahari.
Penelitian ini menggunakan metode studi potong lintang pada ibu hamil sehat usia 20-35 tahun dengan usia kehamilan <12 minggu. Hasil penelitian menunjukkan rerata usia subyek 27,36+3,91 tahun dengan median usia kehamilan 9 minggu. Sebagian besar subyek berpendidikan tinggi (68,1%), status bekerja (70,2%) dengan pendapatan >UMP (59,6%) dan rerata IMT 23,74+3,83 kg/m2. Asupan lemak, protein, dan kalsium subyek <AKG dengan rerata 44,49+22,22 g/hari; 45,07+19,35 g/hari; 661,93+405,91 mg/hari. Asupan vitamin D < AKG dengan median 2,9 (0,3-15,6) mcg/hari.
Median skor paparan sinar matahari adalah 14 (0-42) dengan median lama paparan 17,41 (0-85,71) menit. Terdapat perbedaan bermakna antara kadar kalsidiol serum dengan kelompok lama paparan sinar matahari 5-30 menit dan >30 menit (p=0,033). Rerata kadar kalsidiol serum 39,26+10,25 nmol/mL (insufisiensi) dengan 100% subyek memiliki kadar kalsidiol serum < 80 nmol/L yang menggambarkan keadaan hipovitaminosis D.
Tidak terdapat korelasi antara kadar kalsidiol serum dengan skor paparan sinar matahari (r=0,087; p=0,562), dan asupan vitamin D (r=-0,049; p=0,745). Kesimpulan yang didapatkan dari penelitian adalah seluruh ibu hamil trimester 1 di Jakarta mengalami hipovitaminosis D sehingga perlu segera diatasi melalui konseling dan edukasi gizi.
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Vitamin D deficiency could be related to several complications to pregnancy`s outcomes, both for mother and fetus. Besides, there is limited data regarding to vitamin D status among pregnant women in Indonesia especially during the first trimester. Therefore this study was performed to determine serum calcidiol on the first trimester of pregnancy and its correlation to vitamin D intake and sun exposure score.
The methode in this study was cross-sectional study among healthy pregnant women aged 20-35 years old on their first trimester of pregnancy. Average age of the subjects was 27.36±3.91 years old with median gestational age of 9 weeks. Most of the subjects was well educated (68.1%), working (70.2%) with monthly income equal and more than the province minimum salary (59.6%), and with BMI average of 23.74±3.83 kg/m2. Mostly the subjects had fat, protein, and calcium intake below its RDA with the average intake of 44.49±22.22 g/day; 45.07±19.35 g/day; 661.93±405.91 mg/day, respectively. Vitamin D intake was mostly below its RDA with a median of 2.9 mcg/day and ranged from 0.3 to 15.6 mcg/day.
The median score of sun exposure score was 14 that ranged from zerro to 42, with a median for its duration of 17.41 minutes that ranged from zerro to 85.71 minutes. In this study, there was significant differences

between serum calcidiol and sun exposure duration in 5-30 minutes and more than 30 minutes groups (p=0,033). As the main finding, it reveals that the average of serum calcidiol was 39.26±10.25 nmoL/mL or classified as insufficient where all of the subjects (100%) had serum calcidiol less than 80 nmol/L (hypovitaminosis D).

However, there were no significant correlations between serum calcidiol with sun exposure score and vitamin D intake (r=0.087 and p=0.562; r=-0,049 and p=0.745, respectively). In conclusion, all of the pregnant women in Jakarta, especially in their first trimester had low vitamin D status. Therefore, intervention is needed, i.e. through prenatal counselling and nutrition education regarding to natural sources of vitamin D.