Pengaruh terapi Vitamin D3 terhadap kadar 25(OH)D dan 1,25(OH)2D serum pada wanita hamil dengan defisiensi dan insufisiensi Vitamin D = The effect of Vitamin D therapy on 25(OH)D and 1,25(OH)2D serum maternal concentration in pregnant women with insufficiency or deficiency of Vitamin D

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Abstrak

Tujuan: Mengetahui dosis terapi vitamin D yang optimal untuk ibu hamil dengan defisiensi dan insufisiensi vitamin D

Metode: Uji klinis acak terkontrol dilakukan Juni 2019–Desember 2022 di RSUPN Cipto Mangunkusumo dan RSUD Koja, Jakarta. Subjek adalah wanita hamil usia kehamilan 14 minggu dengan defisiensi atau insufisiensi vitamin D (25(OH)D<30 ng/ml). Subjek dibagi menjadi 2 kelompok, kelompok pertama mendapatkan terapi vitamin D3 50.000 IU/minggu dan kelompok kedua mendapatkan terapi vitamin D3 5.000 IU/hari. Intervensi diberikan selama 4 minggu. Pengukuran kadar 25(OH)D dan 1,25(OH)2D dilakukan pada awal dan akhir intervensi.

Hasil: Subjek awal berjumlah 60 orang, dan 8 subjek mengalami drop out. Karakteristik dasar subjek pada kedua kelompok setara. Kadar awal 25(OH)D tidak menunjukkan perbedaan bermakna di antara kedua kelompok (p=0,552). Pemberian terapi vitamin D3 50.000 IU/minggu selama 4 minggu meningkatkan kadar 25(OH)D secara signifikan (dari 14,5±4,3 menjadi 27,9±9,3 ng/mL, p<0,001) dan meningkatkan kadar 1,25(OH)2D namun secara statistik tidak signifikan (p=0,257). Pemberian terapi vitamin D3 5.000 IU/hari selama 4 minggu meningkatkan kadar 25(OH)D secara signifikan (dari 15,3±4,7 ng/mL menjadi 26,9±6,1 ng/mL, p<0,001) dan juga meningkatkan kadar 1,25(OH)2D secara signifikan (p=0,042). Namun tidak didapatkan perbedaan yang bermakna baik pada delta 25(OH)D (p=0,694), maupun delta 1,25(OH)2D di antara kedua kelompok dosis (p=0,641).

Kesimpulan: Terapi vitamin D3 50.000 IU/minggu selama 4 minggu sama efektifnya dengan vitamin D3 5.000 IU/hari dalam meningkatkan kadar 25(OH)D serum pada wanita hamil dengan defisiensi dan insufisiensi vitamin D. Kedua dosis tersebut juga aman dan dapat ditoleransi oleh ibu hamil.

.....Objective: To determine the optimal therapeutic dose of vitamin D for pregnant women with insufficiency or deficiency of Vitamin D

Methods: A randomized controlled trial was conducted from June 2019 to December 2022 at Cipto Mangunkusumo National Center General Hospital and Koja District Hospital in Jakarta, Indonesia. Subjects were 14 weeks gestation pregnant women with insufficiency or deficiency of Vitamin D (25(OH)D<30 ng/ml]. Two intervention groups were randomly assigned: 5,000 IU vitamin D3 daily or 50,000 IU weekly. Maternal blood samples were collected before and after four weeks of interventions to assess changes in serum concentrations of 25(OH)D and 1,25(OH)2D).

Result: Sixty subjects were randomized into two groups, and eight subjects were dropped out. The basic demographics of subjects in both groups were equivalent. There were no differences in baseline levels of 25(OH)D between two groups (p=0.552). In the 50,000 group, 25(OH)D levels increased from 15.3 ± 4.7 ng/mL to 26.9 ± 6.1 ng/mL (p<0.001). The 1,25(OH)2D levels increased however, the increase is not

statistically significant. While in the 5,000 group, the 25(OH)D levels increased from 14.5 ± 4.3 ng/mL to 27.9 ± 9.3 ng/mL ($p<0.001$) and the 1,25(OH)2D levels increased significantly ($p=0.042$). However, the increment 25(OH)D and 1,25(OH)2D were not statistically significant between two groups.
Conclusion: Vitamin D3 50,000 IU weekly is equally effective and safe as 5,000 IU daily in increasing 25(OH)D serum levels in pregnant women with insufficiency or deficiency of Vitamin D.