

## HUBUNGAN KADAR VITAMIN D DAN NILAI TES TOLERANSI GLUKOSA ORAL (TTGO) PADA WANITA HAMIL DENGAN RISIKO TINGGI GESTASIONAL DIABETES MELITUS DI TRIMESTER PERTAMA DAN KEDUA

### INTISARI

**Latar Belakang:** Prevalensi gestasional diabetes melitus mencakup 1,9-3,5% pada seluruh kehamilan dan di Indonesia sekitar 10-25% wanita hamil tidak terdiagnosis gestasional diabetes melitus. Salah satu metode dalam penegakan diagnosis adalah tes toleransi glukosa oral dan skrining sejak awal kehamilan diperlukan untuk mencegah komplikasi maternal dan perinatal. Vitamin D merupakan salah satu skrining biomarker gestasional diabetes melitus yang baru-baru ini dipelajari. Oleh karena itu, penelitian untuk mendalami hubungan antara kadar vitamin D dan nilai tes toleransi glukosa oral diperlukan untuk skrining, penegakan diagnosis dan preventif terhadap komplikasi gestasional diabetes melitus.

**Tujuan:** Penelitian ini bertujuan membuktikan hubungan antara kadar vitamin D dan nilai TTGO pada ibu hamil dengan risiko tinggi gestasional diabetes mellitus di trimester 1 dan 2

**Metode:** Penelitian ini menggunakan rancangan kohort prospektif. Subjek penelitian adalah wanita hamil dengan risiko tinggi gestasional diabetes melitus. Pemeriksaan kadar vitamin D dan TTGO dilakukan di trimester 1 dan diulang di trimester 2.

**Hasil:** Prevalensi subjek yang mengalami kekurangan vitamin D pada trimester 1 sebesar 45 subjek (75%) dan 41 subjek (68,3%) pada trimester 2. Subjek dengan nilai TTGO (2 jam pp) terganggu sebanyak 9 subjek (15%) di trimester 1 dan 8 subjek (13,3%) di trimester 2. Pada analisis multivariat menunjukkan korelasi yang berbanding terbalik pada masing-masing gap kadar vitamin D dan nilai TTGO di trimester 1 dan 2 ( $r = -0,212$ ,  $p=0,104$ )

**Kesimpulan:** Kadar vitamin D berbanding terbalik dan berhubungan dengan nilai TTGO pada ibu hamil dengan risiko tinggi gestasional diabetes melitus di trimester 1 dan 2

**Kata Kunci:** vitamin D, tes toleransi glukosa oral, wanita hamil, gestasional diabetes melitus

## CORRELATION BETWEEN VITAMIN D LEVELS AND ORAL GLUCOSE TOLERANCE TEST (OGTT) VALUES IN PREGNANT WOMEN WITH HIGH RISK GESTATIONAL DIABETES MELLITUS IN FIRST AND SECOND TRIMESTERS

### ABSTRACT

**Background:** The prevalence of gestational diabetes mellitus covers 1.9-3.5% in all pregnancies and in Indonesia around 10-25% of pregnant women are not diagnosed with gestational diabetes mellitus. One of the methods in establishing the diagnosis is the oral glucose tolerance test and screening early in pregnancy is necessary to prevent maternal and perinatal complications. Vitamin D is one of the most recently studied screening biomarkers of gestational diabetes mellitus. Therefore, research to explore the relationship between vitamin D levels and oral glucose tolerance test scores is needed for screening, diagnosis and prevention of gestational diabetes mellitus complications.

**Objective:** This study aims to prove the relationship between vitamin D levels and OGTT values in pregnant women with a high risk of gestational diabetes mellitus in the 1st and 2nd trimesters.

**Method:** This study used a prospective cohort design. The research subjects were pregnant women with a high risk of gestational diabetes mellitus. Examination of vitamin D levels and OGTT was carried out in the 1st trimester and repeated in the 2nd trimester

**Results:** The prevalence of subjects with vitamin D deficiency in the 1st trimester was 45 subjects (75%) and 41 subjects (68.3%) in the 2nd trimester. Subjects with impaired OGTT (2 hours pp) were 9 subjects (15%) in the 1st trimester and 8 subjects (13.3%) in the 2nd trimester. In the multivariate analysis showed a weak and inverse correlation in the respective gaps in vitamin D levels and OGTT values in the 1st and 2nd trimesters ( $r = -0,212$ ,  $p = 0,104$ )

**Conclusion:** Vitamin D levels are inversely related to OGTT values in pregnant women with a high risk of gestational diabetes mellitus in the 1st and 2nd trimesters.

**Keywords:** vitamin D, oral glucose tolerance test, pregnant women, gestational diabetes mellitus