

# Perbandingan kadar 25-hidroksivitamin D darah tali pusat dan ibu antara kelahiran cukup bulan dan preterm = Comparison of maternal and umbilical serum 25-hydroxyvitamin D between term and preterm deliveries

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## Abstrak

**Latar Belakang:** Defisiensi vitamin D berhubungan dengan berbagai luaran kehamilan yang tidak baik seperti pre-eklamsia, diabetes melitus gestasional, bayi berat lahir rendah, dan kelahiran preterm. Vitamin D diduga berperan dalam patofisiologi terjadinya kelahiran preterm melalui mekanisme penekanan mediator inflamasi.

**Tujuan:** Penelitian ini bertujuan membandingkan kadar 25 (OH) D serum ibu dan tali pusat pada kelahiran preterm dan cukup bulan. Selain itu juga dicarikorelasi antara kadar 25 (OH) D serum ibu dengan tali pusat.

**Metode:** Pada penelitian ini digunakan desain potong-lintang. Penelitian dilakukan di RSUPN Cipto Mangunkusumo dan RS Budi Kemuliaan Jakarta, mulai dari Januari 2017 sampai dengan Februari 2018.

Kadar 25 (OH) D ibu dan tali pusat dibandingkan antara kelompok cukup bulan dan preterm.

**Hasil:** Didapatkan 81 subjek yang dapat dilakukan analisis, yaitu 36 subjek (44,4%) melahirkan cukup bulan dan 45 (55,6%) preterm. Median 25 (OH) D maternal pada kelompok preterm dan cukup bulan berturut-turut 15 ng/mL dan 13,95ng/mL, sedangkan tali pusat 13 ng/ml dan 11,85 ng/ml. Tidak terdapat perbedaan kadar 25 (OH) D serum maternal ( $p=0,96$ ) dan tali pusat ( $p=0,80$ ) antara kedua kelompok.

Terdapat korelasi positif antara kadar 25(OH) ibu dengan tali pusat ( $r=0,59$ ,  $p<0,001$  untuk kelompok cukup bulan dan  $r=0,44$ ,  $p<0,002$  untuk kelompok preterm).

**Kesimpulan:** Kadar 25 (OH) D serum ibu dan tali pusat tidak berbeda bermakna antara kelompok kelahiran preterm dancukup bulan. Terdapat korelasi antara kadar 25 (OH) D ibu dengan tali pusat.

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**Background:** Vitamin D deficiency is associated with poor outcomes of pregnancy such as pre-eclampsia, gestational diabetes mellitus, low birth weight infants, and preterm birth. Vitamin D is thought to play a role in the pathophysiology of preterm deliveries through the mechanism of inflammatory mediator suppression.

**Objective:** To compare maternal and umbilical serum 25 (OH) D levels between preterm and aterm deliveries group. In addition, the correlation between maternal and umbilical cord serum of 25 (OH) D were analyzed.

**Method:** This cross-sectional study was conducted at Cipto Mangunkusumo Hospital and Budi Kemuliaan Hospital Jakarta from January 2017 to February 2018. Pre-delivery maternal venous blood and umbilical cord vitamin D serum levels were measured for both of term and preterm deliveries group.

**Result:** Eighty one subjects were eligible for analysis, 36 subjects (44.4%) delivered term babies and 45 (55.6%) delivered preterm babies. Median level of maternal serum 25 (OH) D were resepectively 15 ng/mL and 13.95 ng/mL for preterm and term group. Umbilical cord serum 25 (OH) D levels were respectively 13 ng/ml and 11.85 ng/ml for preterm and term group. There was no statistically difference between pererterm and term group of both maternal and umbilical serum 25 (OH) D levels (respectively  $p = 0.96$ ,  $p = 0.80$ ). There was a positive correlation between the maternal and umbilical 25 (OH) D levels in both groups ( $r =$

0.59,  $p < 0.001$  for term group and  $r = 0.44$ ,  $p < 0.002$  for preterm group).

Conclusions: Maternal and umbilical serum 25(OH)D levels were not significantly different between term and preterm groups. There was a correlation between maternal and umbilical serum levels of 25(OH)D.