

## Studi kadar vitamin D pada kehamilan normal: hubungannya dengan kadar glukosa jaringan plasenta = A study of vitamin D level in normal pregnancy: the correlation with glucose level in placental tissue

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### Abstrak

Vitamin D memiliki peran dalam implantasi plasenta dan meningkatkan sensitivitas insulin di sel target. Pada plasenta, VDR ditemukan di vili trofoblas, desidua, otot polos sel pembuluh darah plasenta, dan nukleus sel stroma vili plasenta. Melalui peningkatan sensitivitas insulin, vitamin D dapat memengaruhi kadar glukosa di jaringan plasenta. Insulin akan menstimulasi GLUT4 pada plasenta untuk pengambilan glukosa ke dalam sel. Penelitian ini bertujuan untuk mengetahui hubungan kadar vitamin D dan kadar glukosa dalam jaringan plasenta. Penelitian ini merupakan studi awal dengan desain potong lintang dengan sampel berupa 10 jaringan plasenta kehamilan normal. Setiap sampel diukur kadar vitamin D dan kadar glukosanya lalu dilakukan uji korelasi. Kadar vitamin D diukur dengan metode ELISA sedangkan kadar glukosa diukur dengan metode spektrofotometri. Uji korelasi dilakukan dengan uji Pearson menggunakan SPSS versi 20. Hasil uji korelasi kadar vitamin D dan kadar glukosa menunjukkan kecenderungan korelasi positif lemah menuju sedang dengan korelasi Pearson  $r=0,397$ . Namun, hasil uji memberikan  $p=0,128$  sehingga secara statistika tidak bermakna. Hasil penelitian ini dapat digunakan sebagai acuan untuk penelitian selanjutnya dengan besar sampel minimal, yaitu 48 sampel.

Vitamin D has a role in placental implantation and increases insulin sensitivity in target cells. In the placenta, VDR is found in trophoblast villi, decidua, smooth muscle cells of the placental vessels, and nuclei of placental villous stromal cells. Through increased insulin sensitivity, vitamin D can affect glucose levels in placental tissue. Insulin stimulates GLUT4 on the placenta for glucose intake. This study aimed to determine the relationship of vitamin D levels and glucose levels in placental tissue. This study was a preliminary study with a cross-sectional design with a sample of 10 normal pregnancy placental tissues. Vitamin D levels were measured by the ELISA method while glucose levels were measured by spectrophotometric methods. Then performed a correlation test. Correlation test was carried out by Pearson test using SPSS version 20. The results of the correlation test of vitamin D levels and glucose levels showed a weak-to-moderate positive correlation with Pearson correlation  $r=0.397$ . However, the test results give  $p=0.128$  that means statistically it's not significant. The results of this study can be used as a reference for further research with a minimum sample size, which is 48 samples.