

**PERBEDAAN KADAR 25-HYDROXYVITAMIN D, HUMAN  
CHORIONIC GONADOTROPIN (hCG), DAN PROGESTERON  
PADA KEHAMILAN NORMAL DAN ABORTUS TRIMESTER I**



**TESIS**

*Sebagai Salah Satu Syarat  
Untuk Memperoleh Gelar Magister Ilmu Biomedis  
Pada Program Pascasarjana Fakultas Kedokteran Universitas Andalas*

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**UNIVERSITAS ANDALAS**

**2023**

## ABSTRAK

### Perbedaan Kadar 25-hydroxyvitamin D, Human Chorionic Gonadotropin (hCG), dan Progesteron pada Kehamilan Normal dan Abortus Trimester I

Oleh: Afkara Husna Firdanisa (2020312006)

Dibawah bimbingan: dr. Fika Tri Anggraini, MSc, PhD dan Dr. dr. Bobby Indra Utama, SpOG (K)

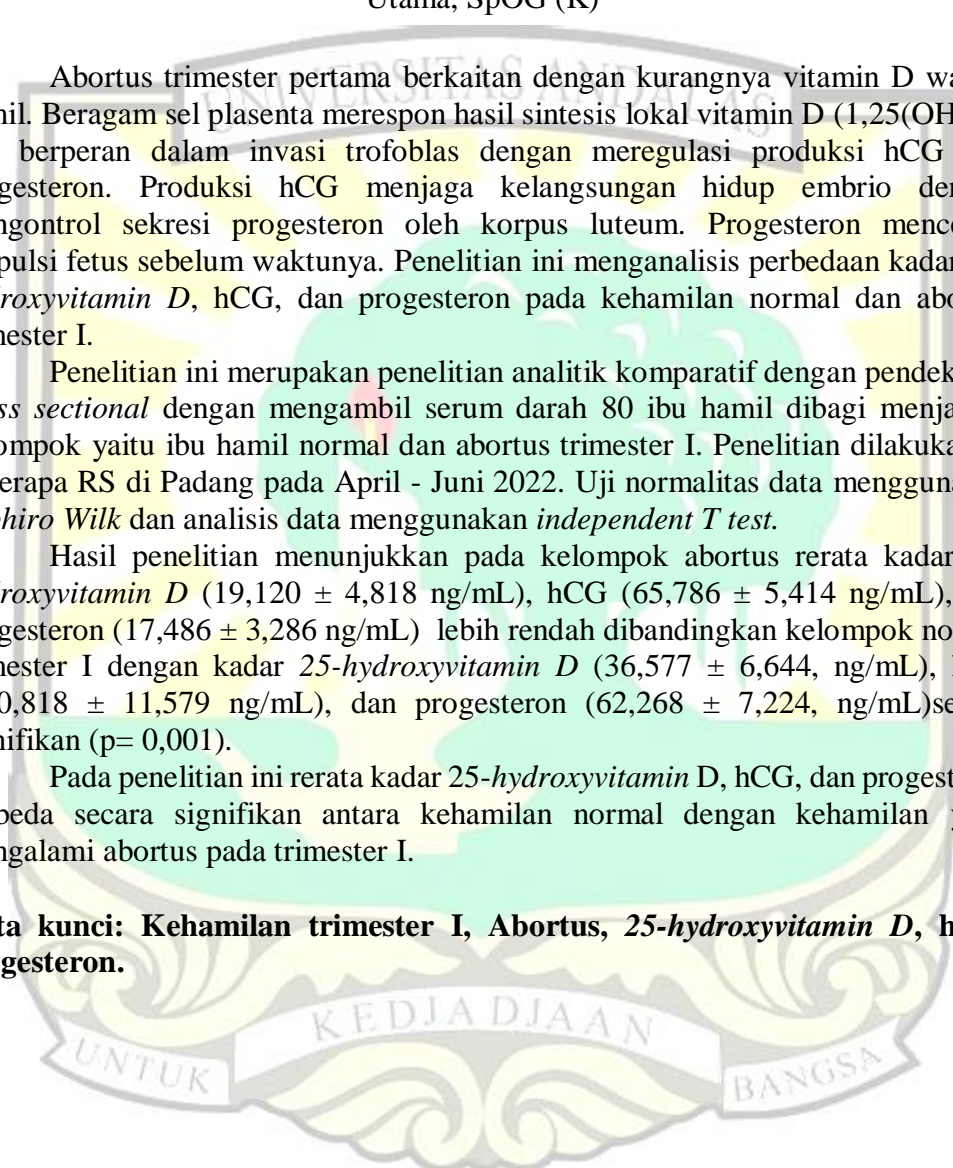
Abortus trimester pertama berkaitan dengan kurangnya vitamin D wanita hamil. Beragam sel plasenta merespon hasil sintesis lokal vitamin D ( $1,25(\text{OH})_2\text{D}$ ) dan berperan dalam invasi trofoblas dengan meregulasi produksi hCG dan progesteron. Produksi hCG menjaga kelangsungan hidup embrio dengan mengontrol sekresi progesteron oleh korpus luteum. Progesteron mencegah ekspulsi fetus sebelum waktunya. Penelitian ini menganalisis perbedaan kadar 25-hydroxyvitamin D, hCG, dan progesteron pada kehamilan normal dan abortus trimester I.

Penelitian ini merupakan penelitian analitik komparatif dengan pendekatan *cross sectional* dengan mengambil serum darah 80 ibu hamil dibagi menjadi 2 kelompok yaitu ibu hamil normal dan abortus trimester I. Penelitian dilakukan di beberapa RS di Padang pada April - Juni 2022. Uji normalitas data menggunakan *Saphiro Wilk* dan analisis data menggunakan *independent T test*.

Hasil penelitian menunjukkan pada kelompok abortus rerata kadar 25-hydroxyvitamin D ( $19,120 \pm 4,818$  ng/mL), hCG ( $65,786 \pm 5,414$  ng/mL), dan progesteron ( $17,486 \pm 3,286$  ng/mL) lebih rendah dibandingkan kelompok normal trimester I dengan kadar 25-hydroxyvitamin D ( $36,577 \pm 6,644$ , ng/mL), hCG ( $130,818 \pm 11,579$  ng/mL), dan progesteron ( $62,268 \pm 7,224$ , ng/mL) secara signifikan ( $p= 0,001$ ).

Pada penelitian ini rerata kadar 25-hydroxyvitamin D, hCG, dan progesteron berbeda secara signifikan antara kehamilan normal dengan kehamilan yang mengalami abortus pada trimester I.

**Kata kunci:** Kehamilan trimester I, Abortus, 25-hydroxyvitamin D, hCG, progesteron.



## **ABSTRACT**

### ***Differences in Levels of 25-hydroxyvitamin D, Human Chorionic Gonadotropin (hCG), and Progesterone in Normal Pregnancy and First Trimester Abortion***

***By: Afkara Husna Firdanisa (2020312006)***

*Supervised by: dr. Fika Tri Anggraini, MSc, PhD dan Dr. dr. Bobby Indra Utama, SpOG (K)*

*Abortion in the first trimester is related to vitamin D deficiency in pregnant women. Various cells in the placenta can respond to the results of local synthesis of vitamin D  $1,25(OH)_2D$  and act in the trophoblast invasion by regulating hCG and progesterone. hCG maintains the embryo's survival, by controlling progesterone secretion. Progesterone prevents the fetus premature expulsion. This study analyze differences in levels of 25-hydroxyvitamin D, hCG, and progesterone in normal pregnancy and abortion in 1<sup>st</sup>-trimester.*

*This is an analytical cross-sectional study. Blood serum is obtained from 80 pregnant women who were divided into 2 groups, normal and abortions. The research was conducted at several hospitals in Padang in April - June 2022. We used Shapiro-Wilk test and Independent T-test.*

*The results showed that in abortion group the mean levels of 25-hydroxyvitamin D ( $19.120 \pm 4.818$  ng/mL), hCG ( $65.786 \pm 5,414$  ng/mL), and progesterone ( $17.486 \pm 3,286$  ng/mL) were lower than normal group that the mean levels of 25-hydroxyvitamin D ( $36.577 \pm 6.644$ , ng/mL), hCG ( $130.818 \pm 11.579$  ng/mL), and progesterone ( $62.268 \pm 7,224$ , ng/mL) significantly ( $p= 0.001$ ).*

*In this study, the mean levels of 25-hydroxyvitamin D, hCG, and progesterone were significantly different between normal pregnancies and abortions in 1<sup>st</sup>-trimester.*

***Keywords: 1<sup>st</sup>-trimester pregnancy, abortion, 25-hydroxyvitamin D, hCG, progesterone.***

