

**PERBANDINGAN KADAR FERRITIN SERUM MATERNAL
ANTARA PERSALINAN PRETERM DENGAN KEHAMILAN
NORMAL**

Tesis



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2020

ABSTRACT

Introduction: Preterm labor is an obstetric problem that gives rise to various maternal and fetal complications. Various studies have been conducted to find the causes of preterm labor, including finding a close relationship between the inflammatory response and the incidence of preterm delivery. Various inflammatory mediators such as IL1b, TNF α , IL6, IL8 and IL12 have been associated with the occurrence of preterm labor. Ferritin is an acute phase protein in which its concentration increases in serum during an inflammatory reaction. This is mediated by inflammatory cytokines such as TNF- α , IL-1 and IL-6 which are also found in preterm labor.

Objective: This study aims to determine the comparison of maternal serum ferritin levels between preterm labor and normal pregnancy and the relationship between maternal serum ferritin levels and the incidence of preterm labor.

Methods: This study was an analytical observational study with a cross-sectional comparative study approach that compared maternal serum ferritin levels between preterm labor and normal pregnancies in Dr. M. Djamil General Hospital, Padang and the Educational Network Hospital, namely Achmad Mochtar Bukittinggi Hospital and Solok Hospital, as well as several community health centers in the city of Padang, including the Nanggalo Puskesmas, Pauh Puskesmas, Lubuk Buaya Puskesmas, and Puskesmas Padang Pasir. The study was conducted from November 2019 to February 2020. Sample was carried out by consecutive sampling until the number of samples was met, namely the group of patients with preterm labor and imminent preterm labor with gestational age between 20 weeks to <37 weeks, totaling 25 samples and had met the inclusion criteria. and the normal pregnant group with gestational age between 20 weeks to <37 weeks, totaling 25 samples. The samples were examined using the ELISA method in Prodia Clinical Laboratory, Padang.

Results: The mean serum ferritin level in the group with preterm labor was 211.5 ± 75.7 ($p = 0.002$) which was higher than the normal pregnancy group, namely 27.6 ± 13.8 ($p = 0.381$)

Conclusion: *There was a statistically significant difference between the mean serum ferritin level in preterm labor and normal pregnancy ($p < 0.05$) where ferritin levels increased significantly in preterm labor.*

Keywords: *Preterm labor, ferritin, inflammation, IL1b, TNF α , IL6, IL8, IL12*



ABSTRAK

Pendahuluan :Persalinan preterm merupakan permasalahan obstetri yang menimbulkan berbagai komplikasi maternal maupun fetal. Berbagai penelitian telah dilakukan untuk mencari penyebab terjadinya persalinan preterm antara lain ditemukannya hubungan yang erat antara respon inflamasi dengan kejadian persalinan preterm. Berbagai mediator inflamasi seperti IL1b, TNF α , IL6, IL8 dan IL12 telah dihubungkan dengan terjadinya proses persalinan preterm. Ferritin merupakan protein fase akut di mana konsentrasinya meningkat dalam serum saat terjadinya reaksi inflamasi. Hal ini dimediasi oleh sitokin inflamasi seperti TNF- α , IL-1 dan IL-6 yang juga ditemukan pada kejadian persalinan preterm.

Tujuan : Penelitian ini bertujuan untuk mengetahui perbandingan kadar ferritin serum maternal antara persalinan preterm dengan kehamilan normal serta hubungan kadar ferritin serum maternal dengan kejadian persalinan preterm.

Metode : Penelitian merupakan penelitian observasional analitik dengan pendekatan *cross sectional comparative study* yang membandingkan kadar ferritin serum maternal antara persalinan preterm dengan kehamilan normal yang dilakukan di Bagian SMF Obstetri dan Ginekologi RSUP Dr. M. Djamil Padang serta RS Jejaring Pendidikan yaitu RSUD Achmad Mochtar Bukittinggi dan RSUD Solok serta beberapa puskesmas di kota Padang antara lain Puskesmas Nanggalo, Puskesmas Pauh, Puskesmas Lubuk Buaya, dan Puskesmas Padang Pasir. Penelitian dilakukan mulai November 2019 hingga Februari 2020. Pengambilan sampel dilakukan secara *Consecutive Sampling* sampai jumlah sampel terpenuhi, yaitu kelompok pasien dengan persalinan preterm maupun partus prematurus imminens dengan usia kehamilan antara 20 minggu sampai dengan < 37 minggu yang berjumlah 25 sampel dan telah memenuhi kriteria inklusi serta kelompok hamil normal dengan usia kehamilan antara 20 minggu sampai dengan < 37 minggu yang berjumlah 25 sampel. Pemeriksaan sampel dilakukan dengan metode ELISA di laboratorium Klinik Prodia Padang.

Hasil : Rerata kadar ferritin serum pada kelompok dengan persalinan preterm yaitu $211,5 \pm 75,7$ ($p=0,002$) di mana lebih tinggi dibandingkan kelompok kehamilan normal yaitu $27,6 \pm 13,8$ ($p=0,381$)

Kesimpulan : Terdapat perbedaan yang bermakna secara statistik antara rerata kadar ferritin serum maternal pada persalinan preterm dengan kehamilan normal ($p < 0,05$) di mana kadar ferritin meningkat signifikan pada persalinan preterm.

Kata kunci : Persalinan preterm, ferritin, inflamasi, IL1b, TNF α , IL6, IL8, IL12

