

**PERBEDAAN KADAR CORTICOTROPIN RELEASING  
HORMONE DAN AKTIVITAS KATALASE PADA  
PERSALINAN PRETERM DAN ATERM**

**TESIS**

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PADANG  
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## ABSTRAK

### PERBEDAAN KADAR CORTICOTROPIN RELEASING HORMONE DAN AKTIVITAS KATALASE PADA PERSALINAN PRETERM DAN ATERM

Miskah Indah Syahid MP

Persalinan preterm adalah proses pengeluaran hasil konsepsi sebelum 37 minggu dan janin yang lahir beresiko mengalami komplikasi akibat imaturitas organ tubuh. Berdasarkan hal tersebut, persalinan preterm menjadi penyebab utama mortalitas dan morbiditas neonatus. Peningkatan kadar *corticotropin releasing hormone* dan penurunan aktivitas katalase merupakan salah satu biomarker penyebab terjadinya persalinan preterm. Tujuan penelitian ini adalah untuk mengetahui perbedaan kadar *corticotropin releasing hormone* dan aktivitas katalase pada persalinan preterm dan aterm.

Penelitian ini adalah penelitian observasional dengan rancangan *cross sectional* terhadap 23 persalinan preterm dan aterm. Tempat penelitian meliputi Rumah Sakit Tingkat III dr. Reksodiwiryono, Rumah Sakit Bhayangkara, Rumah Sakit Umum Daerah dr. Rasidin, Rumah Sakit Umum Daerah Arosuka Solok dan beberapa bidan praktek swasta, serta Laboratorium Biomedik dan Biokimia Fakultas Kedokteran Universitas Andalas, Padang. Sampel penelitian dipilih secara *consecutive sampling*. Pemeriksaan *corticotropin releasing hormone* menggunakan ELISA dan pengukuran aktivitas katalase dengan spektrofotometer. Penilaian perbandingan kadar *corticotropin releasing hormone* dan aktivitas katalase pada persalinan preterm dan aterm menggunakan uji *Mann Whitney*.

Hasil penelitian dengan uji *Mann Whitney* menunjukkan bahwa nilai median kadar *corticotropin releasing hormone* pada persalinan preterm lebih tinggi yaitu sebesar  $5,13 \pm 2,28$  ng/ml daripada persalinan aterm yaitu sebesar  $4,63 \pm 1,07$  ng/ml dengan *p value* 0,030. Nilai median aktivitas katalase pada persalinan preterm lebih rendah yaitu sebesar  $9,7 \pm 0,83$  Unit/mg daripada persalinan aterm yaitu sebesar  $10,2 \pm 1,04$  Unit/mg dengan *p value* 0,017.

Berdasarkan hasil penelitian ini dapat disimpulkan bahwa terdapat perbedaan kadar *corticotropin releasing hormone* dan aktivitas katalase pada persalinan preterm dan aterm.

Kata kunci: *Persalinan Preterm, Persalinan Aterm, Corticotropin Releasing Hormone, Catalase Activity*

## ABSTRACT

### DIFFERENCES OF CORTICOTROPIN RELEASING HORMONE LEVELS AND CATALASE ACTIVITY IN PRETERM AND TERM DELIVERY

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Preterm labor is the release process of the conception before 37 weeks and the fetus is born at risk of complications due to organs immaturity. Based on this, preterm labor is a major cause of neonatal mortality and morbidity. The increasing of corticotropin releasing hormone and the decreasing catalase activity are among the biomarkers that cause preterm labor. The purpose of this research was to determine differences in corticotropin releasing hormone levels and catalase activity in preterm and term delivery.

This research was an observational study with a cross sectional design of 23 preterm and term deliveries. The research locations include Reksodiwiry Hospital, Bhayangkara Hospital, Rasidin Hospital, Arosuka Hospital Solok, and several private practice midwives, also the Biomedical and Biochemical Laboratory of the Faculty of Medicine, Andalas University, Padang. The research sampling was selected by consecutive sampling. The assay of corticotropin releasing hormone is using ELISA and the measurement of catalase activity is using a spectrophotometer. Assessment the comparison of corticotropin releasing hormone levels and catalase activity in preterm and term delivery using Mann Whitney test.

The results of the research with the Mann Whitney test showed that the median value of corticotropin releasing hormone levels in preterm labor were higher,  $5,13 \pm 2,28$  ng/ml than term deliveries,  $4,63 \pm 1,07$  ng/ml with *p value* of 0,030. The median value of catalase activity in preterm labor were lower,  $9,7 \pm 0,83$  unit/mg than term delivery  $10,2 \pm 1,04$  unit/mg with *p value* 0,017.

Based on the results of this research it can be concluded that there are differences in corticotropin releasing hormone levels and catalase activity in preterm and term delivery.

Keywords: Preterm Labor, Term Delivery, Corticotropin Releasing Hormone, Catalase Activity