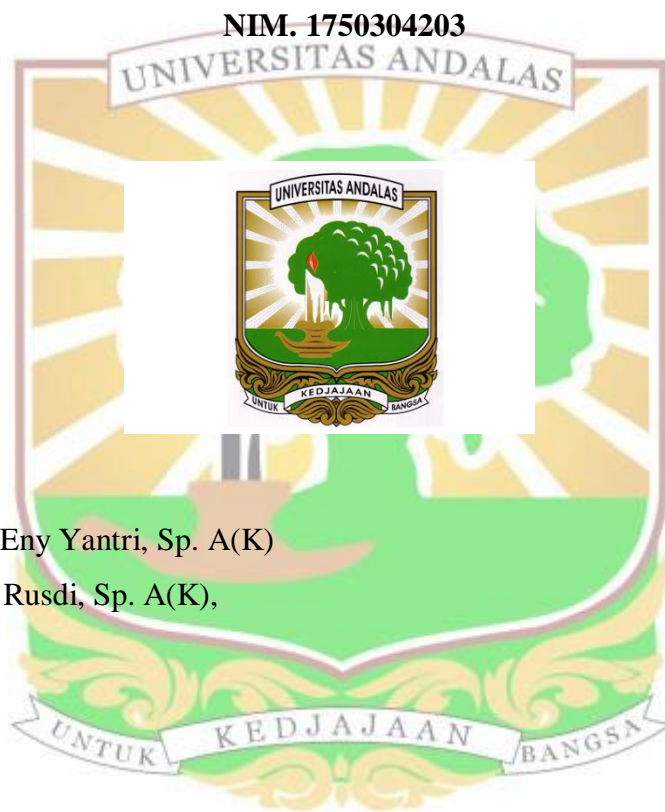


**HUBUNGAN KADAR BILIRUBIN DENGAN KADAR INTERLEUKIN 4 PADA  
NEONATUS KURANG BULAN YANG IKTERIK**

**TESIS**

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## ABSTRAK

### HUBUNGAN KADAR BILIRUBIN DENGAN KADAR INTERLEUKIN 4 PADA NEONATUS KURANG BULAN YANG IKTERIK

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**Latar Belakang:** Bayi kurang bulan, terutama bayi usia gestasi  $\leq 35$  minggu memiliki resiko lebih besar mengalami hiperbilirubinemia berat. Akumulasi bilirubin dapat menghambat respon sel T *helper* 1 (Th1) sehingga mengganggu keseimbangan ke arah T *helper* 2 (Th2). Th2 menghasilkan interleukin 4 (IL-4) sebagai sitokin terbanyak dan paling berperan terhadap proses terjadinya alergi yang dikemudian hari dapat memicu terjadinya penyakit alergi pada masa anak-anak.

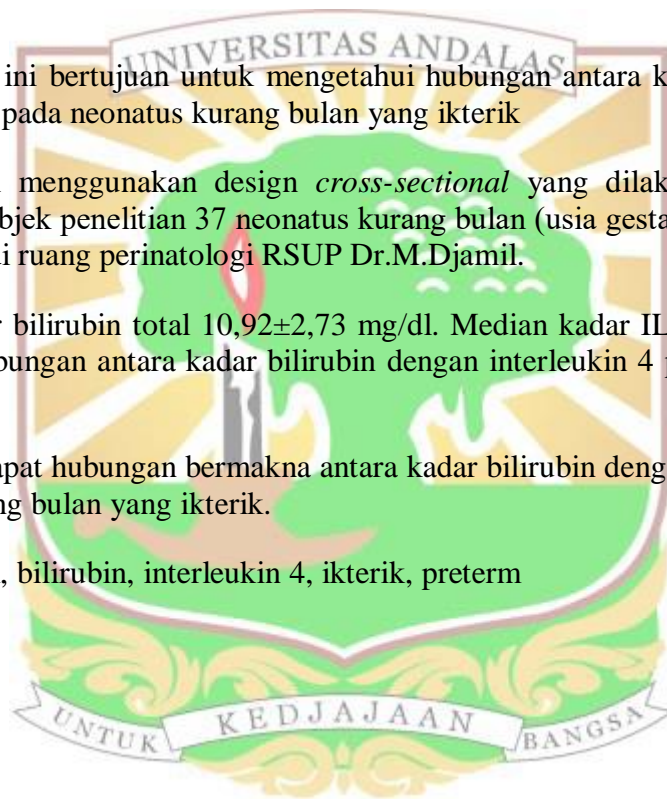
**Tujuan:** Penelitian ini bertujuan untuk mengetahui hubungan antara kadar bilirubin dengan interleukin 4 (IL-4) pada neonatus kurang bulan yang ikterik

**Metode:** Penelitian menggunakan design *cross-sectional* yang dilakukan sejak Agustus-Desember 2021. Subjek penelitian 37 neonatus kurang bulan (usia gestasi  $\leq 35$  minggu) yang mengalami ikterik di ruang perinatologi RSUP Dr.M.Djamil.

**Hasil:** Rerata kadar bilirubin total  $10,92 \pm 2,73$  mg/dl. Median kadar IL-4 adalah  $90,72 \pm 0,21$  pg/ml. Terdapat hubungan antara kadar bilirubin dengan interleukin 4 pada neonatus kurang bulan ( $p=0,033$ ).

**Kesimpulan:** Terdapat hubungan bermakna antara kadar bilirubin dengan kadar interleukin 4 pada neonatus kurang bulan yang ikterik.

**Kata Kunci :** alergi, bilirubin, interleukin 4, ikterik, preterm



## ABSTRACT

### THE RELATIONSHIP BETWEEN BILIRUBIN AND INTERLEUKIN 4 LEVEL IN THE JAUNDICE PRETERM NEONATES

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**Background :** Preterm neonates, particularly infants  $\leq 35$  weeks gestation, has a greater risk of severe hyperbilirubinemia. The accumulation of bilirubin levels can inhibit the response of T helper 1 (Th1) cells making disruption of the balance towards T helper 2 (Th2). Th2 produces interleukin 4 (IL-4) as the most abundant cytokine and plays a major role in the process of allergy which in the future can trigger allergic diseases in childhood.

**Objective:** This study aims to evaluate the relationship between bilirubin and interleukin 4 (IL-4) level in the jaundice preterm neonates.

**Method :** a cross-sectional study was conducted between August and Desember 2021. Subjects were 37 preterm neonates ( $\leq 35$  weeks of gestational age) with jaundice who were admitted to Dr. M. Djamil Hospital Padang to evaluate level of total bilirubin and IL-4.

**Result:** The results of this study showed the mean level of total bilirubin was  $10,92 \pm 2,73$  mg/dl. The median IL-4 level was  $90,72 \pm 0,21$  pg/ml. The relationship between bilirubin and IL-4 level in the jaundice preterm neonates was statistically significant ( $p=0.033$ ).

**Conclusion:** There is a relationship between bilirubin and IL-4 levels in the jaundice preterm neonates.

**Keywords:** allergy, bilirubin, interleukin 4, jaundice, preterm

