

Tangerang, 1 November 2023

## ABSTRAK

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### **PENGARUH RASIO NEUTROFIL-LIMFOSIT (RNL) TERHADAP LAMANYA DURASI RAWAT INAP PADA PASIEN DEMAM BERDARAH DENGUE (DBD) DI RUMAH SAKIT SILOAM LIPPO VILLAGE**

(xiii+44 halaman; 5 tabel; 2 lampiran)

**Latar Belakang.** Demam Berdarah Dengue atau demam berdarah merupakan penyakit yang disebabkan oleh virus dari famili Flaviviridae dan ditransmisikan melalui gigitan nyamuk betina *Aedes aegypti* dan *Aedes albopictus*. Sebuah penelitian dari Yogyakarta, Indonesia menunjukkan bahwa keempat serotipe dengue sudah menyebar luas di perkotaan di Indonesia dan dari 776 kasus demam berdarah pada anak yang diteliti, lebih dari separuhnya sudah terekspos >1 serotipe dengue. Dibutuhkan indikator prognosis yang dapat membantu baik pasien & keluarga, maupun rumah sakit, untuk dapat memperkirakan durasi perawatan rumah sakit sesuai kondisi pasien. Ada 2 penelitian yang mencoba untuk mencari hubungan RNL terhadap durasi rawat inap pada pasien infeksi dengue, namun memiliki hasil yang bertentangan.

**Tujuan Penelitian.** Mengetahui apabila ada hubungan antara rasio neutrofil-limfosit pada saat masuk rumah sakit dengan durasi rawat inap pada pasien demam berdarah di RS Siloam Lippo Village.

**Hipotesis.** Terdapat hubungan signifikan antara Rasio Neutrofil-Limfosit (RNL) terhadap lamanya durasi rawat inap pada pasien demam berdarah di Rumah Sakit Siloam Lippo Village.

**Metode Penelitian.** Penelitian ini merupakan penelitian analitik korelatif sehingga data akan diolah menggunakan uji Pearson dan regresi linear jika distribusi data normal atau uji Spearman jika distribusi data tidak normal pada aplikasi SPSS versi 26.0.

**Hasil Penelitian.** Ditemukan bahwa nilai median RNL ada pada 2,20 dengan jangkauan interkuartil sebesar 2,29. Sedangkan untuk durasi rawat inap, ditemukan bahwa nilai median berada pada 5 hari dengan jangkauan interkuartil sebesar 2,5 hari. Hasil analisis menunjukkan p value 0,003 yang artinya terdapat hubungan yang signifikan antara RNL terhadap lamanya durasi rawat inap pasien demam

berdarah di Rumah Sakit Siloam Lippo Village. Diperoleh nilai R sebesar 0,419 yang berarti RNL dan lama durasi rawat inap memiliki korelasi yang kuat dengan arah hubungan yang positif. Semakin tinggi RNL maka akan meningkatkan lama durasi rawat inap.

**Konklusi.** Ada hubungan yang signifikan antara rasio neutrofil-limfosit terhadap durasi rawat inap pada pasien DBD di Rumah Sakit Siloam Lippo Village ( $r=0,419$ ,  $p=0,003$ ) dengan kekuatan korelasi kuat dan arah korelasi positif.

**Kata Kunci:** demam berdarah, neutrofil, limfosit, durasi rawat inap, rasio neutrofil-limfosit.



## **ABSTRACT**

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### ***THE EFFECT OF NEUTROPHIL-LYMPHOCYTE RATIO (NLR) ON THE DURATION OF HOSPITAL IN DENGUE HEMORRHAGIC FEVER (DHF) PATIENTS AT SILOAM HOSPITAL LIPPO VILLAGE***

*(xiii+44 pages; 5 tables; 2 attachment)*

**Background.** *Dengue Hemorrhagic Fever or dengue fever is a disease caused by a virus from the Flaviviridae family and is transmitted through the bite of female Aedes aegypti and Aedes albopictus mosquitoes. A study from Yogyakarta, Indonesia showed that all four dengue serotypes were widespread in urban areas in Indonesia and of the 776 cases of dengue fever in children studied, more than half had been exposed to >1 dengue serotype. Prognostic indicators are needed that can help both patients & families, as well as hospitals, to be able to estimate the duration of hospital care according to the patient's condition. There were 2 studies that tried to find the relationship between RNL and the duration of hospitalization in patients with dengue infection, but had conflicting results.*

**Research Objective.** *To find out if there is a relationship between the neutrophil-lymphocyte ratio at the time of hospital admission and the duration of stay in dengue fever patients at Siloam Lippo Village Hospital.*

**Hypothesis.** *There is a significant relationship between the Neutrophil-Lymphocyte Ratio (RNL) and the duration of stay in dengue fever patients at Siloam Lippo Village Hospital.*

**Research Method.** *This study utilizes secondary data in the form of medical records from Siloam Lippo Village Hospital from 2018 to 2022. This research is a correlative analytic research so that the data will be processed using the Pearson test and linear regression if the data distribution is normal or the Spearman test if the data distribution is not normal in the SPSS version 26.0 application.*

**Research result.** *It was found that the median RNL was 2.20 with an interquartile range of 2.29. As for the duration of hospitalization, it was found that the median value was at 5 days with an interquartile range of 2.5 days. The results of the analysis show a p value of 0.003, which means that there is a significant relationship between RNL and the length of stay of dengue fever patients at Siloam Lippo Village Hospital. An R value of 0.419 was obtained, which means that RNL and length of stay have a strong correlation with a positive relationship. The higher the RNL, the longer the duration of hospitalization.*

**Conclusion.** *There is a significant relationship between the neutrophil-lymphocyte ratio and the duration of stay in DHF patients at Siloam Lippo Village Hospital ( $r=0.419$ ,  $p=0.003$ ) with a strong correlation strength and a positive correlation direction.*

**Keyword:** *dengue fever, neutrophils, lymphocytes, duration of hospitalization, neutrophil-lymphocyte ratio*

