

ABSTRAK

PERBANDINGAN KARAKTERISTIK HEMATOLOGI *PRE* DAN *POST* TRANSFUSI PADA PENDERITA THALASEMIA DI RSUD DR. H. ABDUL MOELOEK PROVINSI LAMPUNG TAHUN 2023

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Latar Belakang: Thalasemia adalah penyakit hemolitik hereditas akibat gangguan sintesis rantai globin hemoglobin yang menyebabkan anemia kronik. Penyakit ini diturunkan secara autosomal resesif dan memiliki prevalensi tinggi di Indonesia. Terapi utama pada thalasemia mayor adalah transfusi darah rutin untuk mempertahankan kadar hemoglobin dan mencegah komplikasi, namun transfusi berulang juga menimbulkan risiko penumpukan zat besi. Oleh karena itu, pemantauan hematologi pasien sangat penting, terutama melalui parameter laboratorium seperti Hb, MCV, MCH, MCHC, dan RDW. Saat ini, data lokal mengenai perbandingan karakteristik hematologi *pre* dan *post* transfusi masih terbatas, khususnya di Provinsi Lampung. Penelitian ini bertujuan untuk mengevaluasi terapi transfusi darah dalam memperbaiki kondisi hematologi pasien thalasemia.

Metode: Jenis penelitian ini adalah analisis komparatif *pre-post* (*Paired Comparison*) dengan metode pengambilan data secara *cross sectional*. Data yang digunakan adalah data sekunder berupa data rekam medis pasien di RSUD Dr. H. Abdul Moeloek. Hipotesis diuji menggunakan uji statistik uji T berpasangan jika data terdistribusi normal dan uji *Wilcoxon* jika data terdistribusi tidak normal.

Hasil: Terdapat perbedaan rerata kadar Hb, MCV, dan MCHC *pre* dan *post* transfusi menggunakan uji T berpasangan ($p \text{ value} < 0,05$). Terdapat perbedaan rerata kadar MCH dan RDW *pre* dan *post* transfusi menggunakan uji *Wilcoxon* ($p \text{ value} < 0,05$). Perbedaan kadar Hb antara *pre* dan *post* transfusi menunjukkan peningkatan Hb setelah dilakukan transfusi. Perbedaan nilai indeks eritrosit MCV, MCH, MCHC *pre* dan *post* transfusi menunjukkan adanya perubahan komponen eritrosit sebagai respon transfusi. Perbedaan nilai RDW *pre* dan *post* transfusi menunjukkan adanya variasi ukuran sel eritrosit.

Simpulan: Terdapat perbedaan rerata kadar Hb, indeks eritrosit (MCV, MCH, MCHC), dan RDW antara *pre* dan *post* transfusi pada penderita thalasemia di RSUD Dr. H. Abdul Moeloek Provinsi Lampung. Hal ini menunjukkan bahwa transfusi darah efektif dalam memperbaiki parameter hematologi pada penderita thalasemia.

Kata Kunci: Transfusi darah, thalasemia Hb, MCV, MCH, MCHC, RDW

ABSTRACT

COMPARISON OF HEMATOLOGICAL CHARACTERISTICS *PRE* AND *POST* TRANSFUSION IN THALASSEMIA PATIENTS AT RSUD DR. H. ABDUL MOELOEK LAMPUNG PROVINCE 2023

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Background: Thalassemia is a hereditary hemolytic disorder caused by impaired synthesis of globin chains in hemoglobin, leading to chronic anemia. It is an autosomal recessive disease and has a high prevalence in Indonesia. The main treatment for thalassemia major is routine blood transfusions to maintain adequate hemoglobin levels and prevent complications; however, repeated transfusions may lead to iron overload. Therefore, regular hematological monitoring is essential, particularly through laboratory parameters such as Hb, MCV, MCH, MCHC, and RDW. Currently, local data on the comparison of hematological characteristics *pre* and *post* transfusion are limited, especially in Lampung Province. This study aims to evaluate the effectiveness of blood transfusion therapy in improving the hematological condition of thalassemia patients.

Methods: This is a cross sectional study used a pre–post comparative analysis (Paired Comparison). Secondary data were obtained from the medical records of patients at Dr. H. Abdul Moeloek General Hospital. Hypothesis testing was performed using the paired T-test for normally distributed data and the Wilcoxon test for non-normally distributed data.

Results: There were significant differences in the mean levels of Hb, MCV, and MCHC before and after transfusion using the paired T-test ($p < 0.05$). Significant differences were also found in MCH and RDW levels using the Wilcoxon test ($p < 0.05$). The increase in Hb levels post-transfusion indicates the effectiveness of transfusion. Changes in erythrocyte indices (MCV, MCH, MCHC) reflect erythrocyte component responses to transfusion, and differences in RDW values show variations in erythrocyte size.

Conclusion: There were significant differences in mean levels of Hb, erythrocyte indices (MCV, MCH, MCHC), and RDW *pre* and *post* transfusion in thalassemia patients at Dr. H. Abdul Moeloek General Hospital, Lampung Province. These findings suggest that blood transfusion is effective in improving hematological parameters in thalassemia patients.

Keywords: Blood transfusion, thalassemia, Hb, MCV, MCH, MCHC, RDW