

# Pengaruh kadar hemoglobin pre-transfusi dan feritin serum terhadap pertumbuhan fisik pasien thalassemia b mayor = Physical growth in thalassemic major patient and its correlation with pre-transfusion hemoglobin and serum ferritin level

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## Abstrak

Latar belakang. Kadar hemoglobin pre-transfusi dan feritin serum mempengaruhi pertumbuhan anak dengan thalassemia B-major. Penelitian tentang thalassemia sudah dilakukan di Indonesia, namun penelitian tentang hubungan thalassemia dengan pertumbuhan fisik masih terbatas.

Tujuan. Mengetahui pengaruh kadar Hb pre-transfusi dan feritin serum berpengaruh terhadap pertumbuhan fisik pasien thalassemia ?-major.

Metode. Dilakukan bulan Agustus-Oktober 2017 pada pasien anak dengan thalassemia B-major yang berobat ke Thalassemia-Centre RSUD Pekanbaru. Penelitian berupa analitik observasional potong lintang, menganalisis pengaruh kadar Hb pre-transfusi dan feritin serum terhadap parameter perawakan pendek dan sangat pendek, gizi kurang dan buruk, usia tulang yang terlambat.

Hasil. Subjek 41 orang, rentang usia 18-204 bulan. Jenis kelamin laki-laki lebih banyak daripada perempuan 53,7 vs 46,3. 40 subjek mengalami retardasi pertumbuhan. Terdapat korelasi bermakna antara kadar Hb pre-transfusi dengan Z-score TB/U  $r=0,507$ ,  $p=0,001$  dan LILA/U  $r=0,467$ ,  $p=0,02$ . Hb pre-transfusi berpengaruh terhadap interpretasi duduk/umur  $p=0,007$ , IK95 -1,5 - -0,3, subischial leg length/umur  $p=0,002$ , namun tidak pada interpretasi rasio segmen atas/bawah dan usia tulang. Hasil berbeda pada kadar feritin yang tidak memiliki korelasi terhadap semua variabel.

Simpulan. Terdapat pengaruh yang bermakna secara statistik antara kadar Hb pre-transfusi dengan parameter penelitian serta tidak terdapat pengaruh yang bermakna secara statistik antara kadar feritin serum dengan parameter tersebut.

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Background. The level of pre transfusion hemoglobin and ferritin serum affect physical growth on patient with thalassemic major. Study about thalassemia is mainly reported but its relationship with physical growth is limited.

Objective. The main objective of the present study was to evaluate the relationship of pre transfusion Hb and serum ferritin level in patient with thalassemic major.

Material and method. In this analytical cross sectional study, the growth parameters weight, standing height, sitting height, subischial leg length, nutritional status, bone age were measured in 41 patients attending Thalassemia Centre at RSUD in Pekanbaru from August October 2017.

Results. 41 patients with mean age 18 204 months. The results are boys dominated girls in sex criteria 53,7 vs 46,3. As much as 40 subjects have growth retardation. There is correlation in pre transfusion hemoglobin with Z score height for age  $r=0,507$ ,  $p=0,001$  and subischial length  $r=0,467$ ,  $p=0,02$ . This study shows relationship in pre transfusion hemoglobin with sitting height  $p=0,007$ , IK95 1,5 0,3, subischial leg length  $p=0,002$ , but not in segment length and bone age. Serum ferritin level has no correlation to one of those parameters.

**Conclusion.** There is a significant relationship in physical growth based on parameters mentioned above with pre transfusion Hemoglobin, but not with serum ferritin level.