

# **Association Between Compliance on Iron Chelation Therapy and Serum Ferritin Level in Adolescent Patients with Thalassemia = Hubungan antara Kepatuhan Pasien terhadap Terapi Kelasi Besi dan Jumlah Feritin Serum pada Pasien Talasemia Remaja**

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## **Abstrak**

**Introduction.** Thalassemia is one of the hemoglobin disorders with high prevalence worldwide and in Indonesia. A continuous red blood cells transfusion can result in accumulation of iron in the body and stored as ferritin. The excessive iron is removed using iron chelation therapy where a good compliance to iron chelators is required for desirable outcomes. Hence, this study aims to find the association between patients' compliance to oral iron chelators (Deferasirox and Deferiprone) and serum ferritin level in adolescent thalassemia patients as they have been known to be non-compliant towards their medication.

**Methods.** Questionnaire and patient diary card were distributed to adolescent thalassemia patients who had fulfilled exclusion and inclusion criteria. Subjects were divided into poor and good compliance based on the result of patient diary card which were filled for 30 days. Based on Adherence Barrier Questionnaire (ABQ), high and low ABQ score were obtained. The serum ferritin level pre- and post-study was obtained from patients' medical record. The association between patients' compliance from the diary card report was assessed using SPSS along with identification of adherence barriers and questionnaire's total score from the ABQ result.

**Results.** Out of 29 subjects, from the result of patient diary card, there were 72% subjects with poor compliance and 28% subjects with good compliance. Based on ABQ result, there were 4.8% subjects with high ABQ score and 55.2% subjects with low ABQ score. There was a statistically significant correlation between ABQ score and serum ferritin level difference pre- and post-study ( $= -0.394$ ,  $p = 0.034$ ). The correlation between patient's compliance from diary card and serum ferritin level was insignificant ( $= -0.040$ ,  $p = 0.838$ ). Based on ABQ result, it was found that forgetfulness, patients' attitude towards their regiments, and fear of side effects are barriers towards patients' compliance for iron chelators.

**Conclusion.** There is a correlation between patients' compliance and serum ferritin level based on the result of ABQ.

.....Pendahuluan. Talasemia adalah salah satu kelainan hemoglobin dengan prevalensi tinggi di dunia dan di Indonesia. Transfusi darah dalam jangka waktu panjang menyebabkan penumpukan zat besi dalam tubuh yang disimpan sebagai feritin serum. Zat besi yang berlebihan dikeluarkan dengan terapi kelasi besi, dimana dibutuhkan kepatuhan yang baik terhadap obat kelasi besi agar hasil pengobatan baik. Studi ini bertujuan untuk mencari hubungan antara kepatuhan pasien terhadap obat kelasi besi oral (Deferasiroks dan Deferipron) dengan jumlah feritin serum pada pasien talasemia remaja karena remaja dikenal sering tidak patuh terhadap pengobatan mereka.

Metode. Kuesioner dan buku diari disebarluaskan untuk mengumpulkan data dari pasien talasemia remaja yang memenuhi kriteria eksklusi dan inklusi. Subjek dibagi menjadi kepatuhan baik dan buruk berdasarkan hasil buku diari yang diisi selama 30 hari. Berdasarkan hasil Adherence Barrier Questionnaire (ABQ), didapatkan skor ABQ tinggi dan rendah. Jumlah feritin serum sebelum dan sesudah studi diambil dari rekam medik pasien. Hubungan antara kepatuhan pasien berdasarkan buku diari dinilai menggunakan SPSS bersamaan dengan identifikasi penghambat kepatuhan dan skor total kuesioner berdasarkan hasil ABQ.

Hasil. Dari 29 subjek, berdasarkan hasil buku diari, terdapat 72% subjek dengan kepatuhan yang baik dan 28% subjek dengan kepatuhan yang buruk. Berdasarkan hasil ABQ, terdapat 44.8% subjek dengan skor ABQ tinggi dan 55.2% subjek dengan skor ABQ rendah. Terdapat hubungan yang bermakna secara statistik antara skor ABQ dan perbedaan feritin serum sebelum dan sesudah studi ( $= -0.394$ ,  $p = 0.034$ ). Sementara itu, hubungan antara kepatuhan pasien berdasarkan buku diari dengan perbedaan jumlah feritin serum tidak bermakna ( $= -0.040$ ,  $p = 0.838$ ). Ditemukan bahwa lupa, sikap pasien terhadap obatnya, dan ketakutan terhadap efek samping adalah penghalang kepatuhan pasien terhadap obat kalsi besi berdasarkan hasil respon dari ABQ.

Kesimpulan. Terdapat hubungan antara kepatuhan pasien dengan jumlah feritin serum berdasarkan hasil ABQ.