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## Prevalence of hypothyroidism in pediatric thalassemia in Dr. Soetomo Hospital Surabaya

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**Background:** Hypothyroidism is the common endocrine complications in thalassemia patients, caused by iron overload and iron depotition in thyroid gland. Early recognition and prevention may improve the quality of life. Thyroid dysfunction usually occurred after 10 year in transfusion dependent thalassemia, unfortunately hypothyroidism is not clinically observed.

**Objective:** To determine the prevalence of hypothyroidism pediatric thalassemia patients in Dr. Soetomo Hospital Surabaya

**Methods:** This cross sectional study evaluated children aged 3-18 years old with thalassemia at hematology-oncology outpatient clinic, Dr. Soetomo Hospital from February to March 2017. Inclusion criterias were: patients had regular transfusions more than one year. Clinical manifestations and biochemical analysis were taken. Subclinical hypothyroidism was defined as normal FT4 with high TSH; central hypothyroid: low FT4 and low to normal TSH; overt primary hypothyroidism: low FT4 and high TSH. Patients with hypothyroidism were divided into 2 group, group 1(<11yo), and group 2(≥11yo).

**Result:** 106 patients were included in the study. 56 were male, mean age was 10.66 years. Moderate malnutrition was observed in 29.3%; mean of ferritin level was 3703.82±335.69; mean of age of start transfusion was 6.16. Mean of pre-transfusion hemoglobin level was 5.14±1.2. Impaired thyroid function were observed in 27 (25.2%) out of 106 patients: 12 (12.1%) patients subclinical hypothyroidism; 13 (13.1%) patients central hypothyroid, and 2 (2.0%) patients overt primary hypothyroidism. Comparison between group 1 and group 2 was significant (p<0.001).

**Conclusion:** Hypothyroidism is more prevalent in aged 11 year old and more. Thyroid function should be followed periodically.

### Biography

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