

**DIFFERENCE IN TSH (THYROID STIMULATING HORMONE) AND FT4
(FREE THYROXINE) LEVELS BEFORE AND AFTER TREATMENT IN
THYROID PATIENTS AT Drs. JACOBUS LUNA HOSPITAL, M.Si,
BENGKAYANG REGENCY**

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ABSTRACT

Introduction: Thyroid disorders affect metabolic homeostasis by altering hormone levels. Thyroid-Stimulating Hormone (TSH) and Free Thyroxine (FT4) testing is essential for diagnosis and treatment evaluation. Therapeutic success is assessed by comparing hormone levels before and after treatment.

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Research Objective: To determine differences in TSH and FT4 levels before and after treatment in patients with thyroid disorders.

Methods: This retrospective comparative quantitative study used secondary data from medical records and laboratory results at Drs. Jacobus Luna Regional Hospital, Bengkayang. Hormone levels were measured using the HISCL-800 Sysmex analyzer with the Chemiluminescence Enzyme Immunoassay (CLEIA) method. Data were analyzed using the Shapiro–Wilk normality test and Wilcoxon Signed-Rank Test.

Results: No significant difference was found in TSH levels before and after treatment ($p=0.604$). In contrast, FT4 levels decreased significantly after treatment ($p=0.010$), indicating a faster and more consistent therapeutic response.

Conclusion: Thyroid disorder treatment produced different effects on hormonal parameters. TSH showed no significant change, whereas FT4 decreased significantly, indicating effective normalization of thyroid hormone activity.

Keywords: TSH (Thyroid Stimulating Hormone), FT4 (Free Thyroxine)

References: 124 (2016–2025)

**PERBEDAAN KADAR TSH (*THYROID STIMULATING HORMONE*) DAN
FT4 (*FREE THYROXINE*) SEBELUM DAN SESUDAH PENGOBATAN
PADA PASIEN TIROID DI RSUD Drs. JACOBUS LUNA, M.Si
KABUPATEN BENGKAYANG**

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ABSTRAK

Pendahuluan: Gangguan tiroid mempengaruhi keseimbangan metabolisme tubuh melalui perubahan kadar hormon. Pemeriksaan *Thyroid Stimulating Hormone* (TSH) dan *Free Thyroxine* (FT4) berperan penting dalam diagnosis serta evaluasi terapi. Penilaian keberhasilan pengobatan dilakukan dengan membandingkan kadar hormon sebelum dan sesudah terapi, bukan antar parameter.

Tujuan Penelitian: Penelitian ini bertujuan mengetahui perbedaan kadar TSH dan FT4 sebelum dan sesudah pengobatan pada pasien gangguan tiroid.

Metode Penelitian: Kuantitatif komparatif dengan pendekatan retrospektif menggunakan data sekunder dari rekam medis dan hasil laboratorium di RSUD Drs. Jacobus Luna, M.Si Kabupaten Bengkayang. Pemeriksaan hormon dilakukan dengan alat HISCL-800 Sysmex menggunakan metode *Chemiluminescence Enzyme Immunoassay* (CLEIA). Analisis data meliputi uji normalitas *Shapiro-Wilk* dan uji *Wilcoxon Signed Rank Test*.

Hasil: Tidak terdapat perbedaan signifikan kadar TSH sebelum dan sesudah pengobatan ($p = 0,604$). Respons TSH yang lambat akibat mekanisme umpan balik hipotalamus-hipofisis-tiroid, variasi individu, heterogenitas diagnosis, serta perbedaan jenis dan durasi terapi. Sebaliknya, kadar FT4 mengalami penurunan signifikan setelah pengobatan ($p = 0,010$), yang menunjukkan respons terapi yang lebih cepat dan konsisten.

Kesimpulan: Pengobatan gangguan tiroid memberikan dampak berbeda pada parameter hormonal. TSH tidak menunjukkan perubahan signifikan, sedangkan FT4 menurun secara signifikan, menandakan efektivitas terapi dalam menormalkan aktivitas hormon tiroid.

Kata Kunci: TSH (*Thyroid Stimulating Hormone*), FT4 (*Free Thyroxine*)

Daftar Pustaka: 124 (2016-2025)