

ABSTRAK

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HUBUNGAN INDEKS MASSA TUBUH (IMT) DENGAN KADAR *HIGH-SENSITIVITY C-REACTIVE PROTEIN* (hs-CRP) PADA MAHASISWA TEKNOLOGI LABORATORIUM MEDIS

xvii + 79 Halaman + 8 Tabel + 13 Lampiran

Indeks Massa Tubuh (IMT) merupakan indikator status gizi yang berkaitan dengan proses inflamasi dalam tubuh. Peningkatan IMT dapat memicu produksi sitokin proinflamasi yang merangsang peningkatan kadar *high-sensitivity C-Reactive Protein* (hs-CRP). Penelitian ini dilakukan untuk mengetahui hubungan antara IMT dengan kadar hs-CRP pada mahasiswa Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya. Penelitian dilaksanakan pada Oktober 2025 - Mei 2026 di Laboratorium Imunologi Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya menggunakan desain observasional dengan pendekatan *cross-sectional* terhadap mahasiswa Teknologi Laboratorium Medis yang dipilih menggunakan teknik *purposive sampling*. Pengukuran IMT dilakukan melalui pengukuran berat badan dan tinggi badan, sedangkan pemeriksaan hs-CRP dilakukan menggunakan metode *Fluorescence Immunoassay* (FIA) dari sampel serum. Data dianalisis menggunakan uji korelasi Spearman Rank karena data tidak berdistribusi normal. Hasil penelitian menunjukkan bahwa responden dengan IMT kategori *overweight* dan obesitas cenderung memiliki kadar hs-CRP kategori sedang hingga tinggi, sedangkan responden dengan kategori normal dan *underweight* cenderung memiliki kadar hs-CRP rendah. Hasil uji statistik menunjukkan terdapat hubungan yang signifikan antara IMT dan kadar hs-CRP dengan nilai $p < 0,05$ dan koefisien korelasi $r = 0,551$ yang menunjukkan kekuatan hubungan kuat dengan arah korelasi positif. Peningkatan IMT berhubungan dengan peningkatan kadar hs-CRP akibat peningkatan jaringan adiposa dan produksi sitokin proinflamasi. Oleh karena itu, pengendalian IMT melalui pola hidup sehat penting dilakukan sebagai upaya pencegahan inflamasi kronis dan penyakit degeneratif sejak usia muda.

Kata kunci : IMT, hs-CRP, *Fluorescence Immunoassay*, inflamasi

Daftar bacaan : 9 buku (2016 - 2023), 56 artikel jurnal (2018 - 2025)

ABSTRACT

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CORRELATION OF BODY MASS INDEX (BMI) WITH HIGH-SENSITIVITY C-REACTIVE PROTEIN (hs-CRP) LEVELS IN MEDICAL LABORATORY TECHNOLOGY STUDENTS

xvii + 79 Pages + 8 Tables + 13 Appendices

Body Mass Index (BMI) is an indicator of nutritional status associated with inflammatory processes in the body. Increased BMI may trigger the production of proinflammatory cytokines that stimulate elevated levels of high-sensitivity C-Reactive Protein (hs-CRP). This study was conducted to determine the relationship between BMI and hs-CRP levels among Medical Laboratory Technology students at Poltekkes Kemenkes Surabaya. The study was carried out from October 2025 to May 2026 at the Immunology Laboratory, Department of Medical Laboratory Technology, Poltekkes Kemenkes Surabaya, using an observational design with a cross-sectional approach involving Medical Laboratory Technology students selected through purposive sampling. BMI was measured based on body weight and height measurements, while hs-CRP levels were examined using the Fluorescence Immunoassay (FIA) method from serum samples. Data were analyzed using the Spearman Rank correlation test due to non-normally distributed data. The results showed that respondents classified as overweight and obese tended to have moderate to high hs-CRP levels, whereas respondents in the normal and underweight categories tended to have low hs-CRP levels. Statistical analysis demonstrated a significant relationship between BMI and hs-CRP levels with $p < 0.05$ and a correlation coefficient of $r = 0.551$, indicating a strong positive correlation. Increased BMI was associated with elevated hs-CRP levels due to increased adipose tissue and proinflammatory cytokine production. Therefore, maintaining BMI through a healthy lifestyle is important as an effort to prevent chronic inflammation and degenerative diseases from an early age.

Keywords : BMI, hs-CRP, Fluorescence Immunoassay, inflammation

References : 9 books (2016 - 2023), 56 journal articles (2018 - 2025)