INTISARI

Latar Belakang Penelitian : Kondisi obesitas dan penurunan fungsi-fungsi fisiologis pada lansia menyebabkan inflamasi kronis yang berkaitan dengan resistensi insulin. Resistensi insulin menyebabkan tingginya glukosa darah puasa. Kondisi inflamasi kronis berkaitan dengan keberadaan C-reactive protein dan IL-1β yaitu mediator inflamasi yang dapat mengganggu fungsi sel-β pankreas. Pemeriksaan *high-sensitivity C-reactive protein* (hs-CRP) lebih detail untuk mendeteksi adanya inflamasi pada pasien lanjut usia dibanding C-reactive protein. Hubungan antara *high-sensitivity C-reactive protein* (hs-CRP) dengan peningkatan glukosa darah puasa pada lanjut usia dengan angka harapan hidup tinggi belum banyak diketahui.

Tujuan Penelitian : Mengetahui korelasi antara faktor inflamasi yaitu *high-sensitivity C-reactive protein* (hs-CRP) dan glukosa darah puasa (GDP) pada pasien lanjut usia dengan usia harapan hidup tinggi di Sleman.

Metode Penelitian: Penelitian menggunakan desain potong lintang dengan pendekatan retrospektif. Subjek penelitian yang digunakan adalah pasien lanjut usia dengan usia harapan hidup tinggi di Sleman yang memenuhi kriteria inklusi dan eksklusi. Data pada penelitian ini diambil dari data penelitian HDSS (*Health and Demographic Surveillance System*) di Sleman yang dilakukan pada periode Oktober hingga November 2021. Penelitian dilakukan dengan menghubungkan faktor inflamasi yaitu *High-Sensitivity C-Reactive Protein* (hs-CRP) dengan kadar glukosa darah puasa subjek yang terbagi menjadi 3 kategori yaitu normal, pre-DM, dan DM.

Hasil : Analisis bivariat hubungan hs-CRP dengan kriteria GDP didapatkan hasil yang signifikan (p<0,05) dengan hasil rata-rata hs-CRP tertinggi pada kelompok DM(2,15 ± 1,7), lalu diikuti kelompok pre-DM (1,41 ± 0,87), dan kelompok normal terendah (1,19 ± 0,85). Analisis hubungan hs-CRP dengan penggunaan obat anti-DM menunjukkan hasil yang signifikan (p<0,05) dengan rata-rata hs-CRP kelompok pengguna biguanide lebih tinggi (2,23 ± 1,85) dibandingkan dengan kelompok pengguna non-biguanide (2,11 ± 1,78) dan kelompok tidak menggunakan anti-DM (1,24 ± 0,85).

Kesimpulan : Terdapat hubungan bermakna antara peningkatan kadar *high sensitivity C-reactive protein* (hs-CRP) dengan kadar glukosa darah puasa pada pasien dengan usia harapan hidup tinggi di Sleman.

Kata Kunci : *High-sensitivity C-reactive protein* (hs-CRP), inflamasi, glukosa darah puasa, lansia.

ABSTRACT

Background : Obesity and decreased physiological functions in the elderly cause chronic inflammation which is associated with insulin resistance. Insulin resistance causes high fasting blood glucose. Chronic inflammatory conditions are associated with the presence of C-reactive protein and IL-1β, namely inflammatory mediators that can interfere with pancreatic β-cell function. The high-sensitivity C-reactive protein (hs-CRP) examination is more detailed for detecting inflammation in elderly patients than C-reactive protein. The relationship between high-sensitivity C-reactive protein (hs-CRP) and increased fasting blood glucose in elderly people with high life expectancy is not well known.

Aim : This study aims to determine the correlation between inflammatory factors, namely high-sensitivity C-reactive protein (hs-CRP) and fasting blood glucose in elderly patients with high life expectancy in Sleman.

Methods : The study used a cross-sectional design with a retrospective approach. The research subjects used were elderly patients with high life expectancy in Sleman who met the inclusion and exclusion criteria. The data in this study was taken from HDSS (Health and Demographic Surveillance System) research data in Sleman which was carried out in the period October to November 2021. The research was carried out by correlating inflammatory factors, namely High-Sensitivity C-Reactive Protein (hs-CRP) with blood glucose levels. Subject fasting was divided into 3 categories, namely normal, pre-DM, and DM.

Result : Bivariate analysis of the relationship between hs-CRP and GDP criteria showed significant results (p<0.05) with the highest average hs-CRP result in the DM group (2.15 ± 1.7), followed by the pre-DM group (1 .41 ± 0.87), and the normal group was the lowest (1.19 ± 0.85). Analysis of the relationship between hs-CRP and the use of anti-DM drugs showed significant results (p<0.05) with the average hs-CRP of the biguanide user group being higher (2.23 ± 1.85) compared to the non-biguanide user group. (2.11 ± 1.78) and the group not using anti-DM (1.24 ± 0.85).

Conclusion: There was significant relationship between high-sensitivity C-reactive protein (hs-CRP) and fasting blood glucose level in elderly patients with high life expectancy in Sleman.

Keyword : High-sensitivity C-reactive protein (hs-CRP), diabetes mellitus type 2, inflammation, fasting blood glucose, elderly.