

INTISARI

HUBUNGAN AKTIVITAS FISIK DENGAN RASIO MONOSIT-HDL PADA LANSIA DM USIA HARAPAN HIDUP TINGGI PROVINSI DIY

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Latar belakang: Populasi lansia diperkirakan akan meningkat dua kali lipat dalam beberapa tiga dekade mendatang, dikarenakan peningkatan usia harapan hidup. Provinsi DIY memiliki angka hidupnya tertinggi (73.13 tahun dan 76.67 tahun pada laki-laki dan perempuan). Aktivitas fisik dapat menurunkan resistensi insulin, memperbaiki metabolisme lipid, dan menurunkan kadar inflamasi pada diabetes melitus (DM). Aktivitas fisik dapat meningkatkan usia harapan hidup. Banyak faktor yang memengaruhi usia harapan hidup, salah satunya adalah aktivitas fisik. Penelitian ini mencari tahu hubungan aktivitas fisik dengan rasio monosit-HDL (MHR) pada penderita DM yang sudah melebihi usia harapan hidup di Yogyakarta.

Metode: Penelitian potong lintang dilakukan pada September 2022-April 2023 dan pengambilan dengan *purposive sampling*. Partisipan yang sesuai kriteria dan bersedia akan diminta persiapan puasa minimal 8 jam kemudian diwawancara kuesioner aktivitas fisik dan diperiksa darah lengkap, glukosa darah puasa, dan HDL kolesterol. Hubungan antara aktivitas fisik dan MHR lalu dianalisis menggunakan SPSS.

Hasil: Didapatkan 50 partisipan dengan usia median 78 (74-91) tahun. Rerata skor aktivitas fisik 100.28 ± 7.96 . Rerata MHR 0.0147 ± 0.005 . Terdapat hubungan signifikan dengan korelasi lemah antara aktivitas fisik dan MHR (nilai p 0.034, r -0.301), korelasi lemah MHR dengan indeks masa tubuh (IMT) (nilai p 0.015, r 0.343), obesitas (nilai p 0.019, r 0.331) obesitas sentral (nilai p 0.032, r 0.303) dan merokok (nilai p 0.039, r 0.293). Dilakukan analisis multivariat, terdapat hubungan signifikan dengan korelasi lemah antara aktivitas fisik dan MHR (nilai p 0.033, r -0.297). IMT, obesitas sentral dan merokok tidak berhubungan signifikan dengan MHR.

Kesimpulan: Terdapat korelasi negatif dengan kekuatan lemah antara aktivitas fisik dengan MHR pada penderita diabetes melitus yang telah mencapai usia harapan hidup tinggi provinsi DIY.

Kata kunci: *diabetes melitus, inflamasi, aktivitas fisik, harapan hidup, MHR*

ABSTRACT

THE ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND MONOCYTE-HDL RATIO IN DIABETES MELLITUS PATIENTS WHO HAVE EXCEED LIFE EXPECTANCY IN YOGYAKARTA PROVINCE

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Background: The elderly population is expected to double in the upcoming three decades, due to increase in life expectancy. The province of DIY has the highest life expectancy in Indonesia (73.13 years and 76.67 years for men and women). Physical activity can reduce insulin resistance, improve lipid metabolism and reduce levels of inflammation in diabetes mellitus (DM). Physical activity can increase life expectancy. Many factors affect life expectancy, one of which is physical activity. This study investigated the association between physical activity and monocyte to HDL ratio (MHR) in diabetes mellitus patients who had exceeded their life expectancy in Yogyakarta.

Method: This cross-sectional study was conducted in September 2022-April 2023 and using purposive sampling. Participants who meet the criteria and consent were asked to fast at least 8 hours, then be interviewed by a physical activity questionnaire and checked complete blood tests, fasting blood glucose and HDL cholesterol. The association between physical activity and MHR then analyzed using SPSS.

Result: There were 50 participants with median age 78 (74-91) years. The mean score of physical activity is 100.28 ± 7.96 . Mean MHR is 0.0147 ± 0.005 . There is a significant relationship with weak correlation between physical activity and MHR (p value 0.034, r -0.301), weak correlation between MHR and body mass index (BMI) (p value 0.015, r 0.343), obesity (p value 0.019, r 0.331) central obesity (p value 0.032, r 0.303) and smoking (p value 0.039, r 0.293). Multivariate analysis was performed, there is a significant relationship with weak correlation between physical activity and MHR (p value 0.033, r -0.297). BMI, central obesity and smoking were not significantly related to MHR.

Conclusion: There is a negative correlation with weak strength between physical activity and MHR in patients with diabetes mellitus who have reached the life expectancy of province of DIY.

Keywords: *diabetes melitus, inflammation, physical activity, life expectancy, MHR*