HUBUNGAN FUNGSI SEL BETA PANKREAS (HOMA-B) DENGAN SINDROM METABOLIK PADA POPULASI DOKTER USIA 30-50 TAHUN

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INTISARI

Latar Belakang: Sindrom Metabolik (SM) merupakan masalah kesehatan yang patut diperhatikan pada populasi dokter akibat pola kerja dan gaya hidup berisiko. Penilaian fungsi sel beta pankreas dengan HOMA-B kompleks karena adanya fase kompensasi sebelum kegagalan pankreas, sehingga masih ada perbedaan hasil pada penelitian-penelitian sebelumnya.
Tujuan: Mengevaluasi rasio prevalensi HOMA-B ≤94,74% dengan SM pada populasi dokter usia 30-50 tahun
Metode: Penelitian ini adalah penelitian potong lintang pada 184 dokter yang menjalani pemeriksaan kesehatan di Laboratorium Patologi Klinik FK-KMK UGM pada Mei 2023. Sampel diambil secara konsekutif pada subjek yang memenuhi kriteria inklusi dan eksklusi. Sindrom Metabolik ditentukan menggunakan kriteria *Harmonized* dan indeks HOMA-B dikategorikan menjadi ≤94,74% dan >94,74%. Analisis menggunakan uji *chi-square* dengan interval kepercayaan 95% dan nilai p<0,05 dianggap bermakna secara statistik.
Hasil: Median usia subjek adalah 32 (30-49) tahun; 83 subjek (45%) laki-laki dan 101 subjek (55%) perempuan. Median HOMA-B pada kelompok dengan SM adalah 116,75% (24,00–749,60%) dan non-SM adalah 91,93% (21,60–340,36%); p <0,001. Rasio prevalensi SM pada kelompok HOMA-B ≤94,74% adalah 0,65 kali lebih rendah dibandingkan kelompok HOMA-B >94,74%% (IK95% 0,41 – 1,03; p = 0,066), dan menjadi 0,94 kali lebih rendah setelah dikontrol dengan usia, IMT, sistem *shift*, lama bekerja, jam kerja, kuantitas tidur, kualitas tidur, aktivitas fisik, diet serat, dan status perokok (IK95% 0,58 – 1,52; p = 0,795).
Simpulan: Kelompok subjek dengan HOMA-B ≤94,74% memiliki rasio prevalensi SM 0,94 kali lebih rendah yang tidak berbeda bermakna dibandingkan kelompok subjek dengan HOMA-B >94,74%% setelah pengontrolan terhadap usia, IMT, sistem *shift*, lama bekerja, jam kerja, kuantitas tidur, kualitas tidur, aktivitas fisik, diet serat, dan status perokok.

Kata Kunci: sindrom metabolik, HOMA-B, disfungsi sel beta, dokter

THE ASSOCIATION BETWEEN PANCREATIC BETA-CELL FUNCTION (HOMA-B) AND METABOLIC SYNDROME AMONG PHYSICIANS AGED 30-50 YEARS OLD

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ABSTRACT

Background: Metabolic Syndrome (MetS) is a health concern that warrants significant attention within the physician population due to their high-risk work patterns and lifestyles. The assessment of pancreatic beta-cell function using HOMA-B is complex due to a compensatory phase that precedes pancreatic failure, which accounts for the conflicting results in previous studies.
Objective: To evaluate the prevalence ratio of HOMA-B ≤94.74% with MetS in a physician population aged 30-50 years.
Methods: This was a cross-sectional study involving 184 physicians who underwent medical check-ups at the Clinical Pathology Laboratory of FK-KMK UGM in May 2023. Consecutive sampling was applied to subjects meeting the inclusion and exclusion criteria. MetS was defined using the Harmonized criteria, and the HOMA-B index was categorized into ≤94.74% and >94.74%. Data were analyzed using the chi-square test and multivariable regression. A 95% confidence interval (CI) was used, and a p-value <0.05 was considered statistically significant.
Results: The median age of the subjects was 32 (30–49) years, comprising 83 males (45%) and 101 females (55%). The median HOMA-B in the MetS group was 116.75% (24.00–749.60%), which was significantly higher than the non-MetS group at 91.93% (21.60–340.36%); $p < 0.001$. The prevalence ratio of MetS in the HOMA-B ≤94.74% group was 0.65 times lower compared to the HOMA-B >94.74% group (95% CI: 0.41–1.03; $p = 0.066$). After adjusting for age, BMI, shift work system, years of employment, working hours, sleep quantity, sleep quality, physical activity, dietary fiber, and smoking status, the adjusted prevalence ratio was 0.94 (95% CI: 0.58–1.52; $p = 0.795$).
Conclusion: The prevalence ratio of MetS in the HOMA-B ≤94.74% group was not significantly different from the HOMA-B >94.74% group (aPR = 0.94) after adjusting for age, BMI, shift work system, years of employment, working hours, sleep quantity, sleep quality, physical activity, dietary fiber, and smoking status.

Keywords: metabolic syndrome, HOMA-B, beta-cell dysfunction, physician