

**Prevalence of Metabolic Syndrome and Its Components
Based on International Diabetes Federation (IDF)
Definition in East Java, Indonesia**

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Abstract

Title: Prevalence of Metabolic Syndrome and Its
Components Based on International Diabetes Federation
(IDF) Definition in Yogyakarta, Indonesia

Background: Metabolic syndrome is a cluster of risk
factors which includes hypertension, dyslipidemia,
insulin resistance, pro-inflammatory state and pro-
thrombotic state, precipitating the occurrence of
cardiovascular disease, type 2 diabetes mellitus and
all cause of mortality. Ischemic heart disease,
cerebrovascular disease and diabetes mellitus are the
leading causes of global death and premature death in
2010. Global prevalence of MetS is estimated to be 25%
of the total human population according to
International Diabetes Federation. Five out of seven
health risk factors were higher than the national
average. No study found the prevalence of MetS and its
components in East Java. As result, it is evident that
the prevalence of MetS should be uncovered.

Objectives: To determine the prevalence of metabolic
syndrome and its components based on IDF definitions
in the East Java.

Method: Retrospective study using the IFLS 4 survey
data in East Java. 1540 people are eligible to be the
subjects for analysis. International Diabetes
Federation criteria is used to define the prevalence of
MetS and its components. The prevalence of MetS and
each MetS components are arranged in the form of mean
or percentage(%) using univariate analysis and the
difference of MetS components caused by demographic
factors and their respective statistical significance
(P-value) is measured by chi-square in bivariate
analysis.

Result: The prevalence of metabolic syndrome in East Java is 24.09% . The most prevalent MetS component is dyslipidemia (68.44%), followed by hypertension (65.45%), central obesity (44.69%), pro-inflammatory state (14.41%) and insulin resistance (0.97%). The difference of MetS prevalence is statistically significant in sex group and geographic factor group (Female: Male = 34.51%:11.19%, $p = <0.001$; Urban: Rural = 28.10%: 20.45%, $p = <0.001$), whereas the age group and ethnicity group do not display statistically significant difference.

Conclusion: The prevalence of MetS (24.09%) is near to the estimated prevalence of global MetS by IDF.

Keywords: Prevalence, Metabolic Syndrome, East Java, IDF criteria, Demographic factor

Prevalensi Sindrom Metabolik dan Komponen Berdasarkan
International Diabetes Federation (IDF) Definisi di
Yogyakarta, Indonesia

INTISARI

Latar Belakang: Metabolik sindrom adalah sekelompok faktor risiko yang meliputi hipertensi, dislipidemia, resistensi insulin, negara pro-inflamasi dan negara pro-trombotik, mempercepat terjadinya penyakit kardiovaskular, diabetes melitus tipe 2 dan semua penyebab kematian. Penyakit jantung iskemik, penyakit serebrovaskular dan diabetes mellitus adalah penyebab utama kematian global dan kematian dini pada tahun 2010. prevalensi global Mets diperkirakan 25% dari total populasi manusia menurut International Diabetes Federation. Lima komponen dari tujuh faktor risiko kesehatan lebih tinggi dari rata-rata nasional Tidak ada studi menemukan prevalensi Mets dan komponennya di Jawa Timur. Akibatnya, prevalensi MetS hard diketahui. Tujuan: Untuk menentukan prevalensi sindrom metabolik dan komponen itu berdasarkan IDF definitions di Jawa Timur.

Metode: Penelitian retrospektif menggunakan data survei IFLS 4 di Jawa Timur. Sejumlah 1540 orang yang memenuhi syarat untuk menjadi subyek untuk analisis. Kriteria International Diabetes Federation digunakan untuk menentukan prevalensi Mets dan komponen-komponennya. Prevalensi Mets dan masing-masing Mets komponen disusun dalam bentuk rata-rata atau persentase (%) menggunakan analisis univariat dan perbedaan komponen Mets disebabkan oleh faktor demografi dan masing-masing signifikansi statistik (P-value) mereka diukur dengan chi-square di analisis bivariat.

Hasil: Prevalensi sindrom metabolik di Jawa Timur adalah 24,09%. Komponen Mets yang paling lazim adalah dislipidemia (68,44%), diikuti oleh hipertensi (65,45%), obesitas sentral (44,69%), pro-inflamasi negara (14,41%) dan resistensi insulin (0,97%). Perbedaan prevalensi Mets adalah signifikan secara statistik dalam kelompok jenis kelamin dan kelompok geografis faktor (Perempuan: Laki-laki = 34,51%: 11,19%, $p = <0,001$; Perkotaan: Desa = 28,10%: 20,45%, $p = <0,001$), sedangkan kelompok usia dan kelompok etnis tidak menampilkan perbedaan yang signifikan.

Kesimpulan: Prevalensi Mets (24.09%) dekat dengan perkiraan prevalensi Mets global dengan IDF.

Kata kunci: Prevalensi, Sindrom Metabolik, Jawa Timur, kriteria IDF, faktor demografi