

**ANALISIS SENSITIFITAS DAN SPESIFISITAS KADAR ADIPONEKTIN,
IRISIN DAN RASIO MASSA OTOT TERHADAP MASSA LEMAK
WANITA DEWASA SUKU MINANG DALAM MEMPREDIKSI
SINDROM METABOLIK**

Disertasi



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ABSTRAK

ANALISIS SENSITIFITAS DAN SPESIFISITAS KADAR ADIPONEKTIN, IRISIN DAN RASIO MASSA OTOT TERHADAP MASSA LEMAK WANITA DEWASA SUKU MINANG DALAM MEMPREDIKSI SINDROM METABOLIK

Oleh : Arlen Defitri Nazar (1830312007)

Adipokin Adiponektin dan Miokin Irisin sebagai mediator utama peradangan pada sindrom metabolik. Massa otot dan massa lemak juga berhubungan dengan resistensi insulin dan sindrom metabolik. Penelitian *Cross sectional study* ini bertujuan untuk menganalisis sensitifitas dan spesifisitas kadar adiponektin, irisin dan rasio massa otot terhadap massa lemak dalam memprediksi sindrom metabolik pada wanita dewasa suku minang.

158 wanita dewasa berusia 25–44 tahun yang tinggal di kabupaten pesisir selatan dipilih secara *simple random sampling*. Pengambilan sampel darah oleh analis laboratorium. Data meliputi status gizi, komposisi tubuh, profil darah dan kadar adiponektin serta irisin. Data komposisi tubuh diukur menggunakan BIA, profil darah dianalisis di Labkesda Sumatra Barat dan analisis ELISA di Laboratorium Biomedik.

Kejadian sindrom metabolik ditemukan 24%. Rerata kadar adiponektin responden $5,49 \pm 2,82 \mu\text{g/ml}$, Rerata lebih rendah pada kelompok sindrom metabolik Rerata kadar irisin responden $18,1 \pm 8,36 \mu\text{g/ml}$, rerata lebih tinggi pada kelompok sindrom metabolik. Rerata rasio massa otot terhadap massa lemak responden $1,67 \pm 0,7$, rerata lebih rendah pada kelompok dengan sindrom metabolik. Sensitivitas dan spesifisitas adiponektin dalam memprediksi sindrom metabolik yaitu 58,8% dan 65,5% dengan *Cut off* $4,3 \mu\text{g/ml}$. Sensitivitas dan spesifisitas irisin dalam memprediksi sindrom metabolik yaitu 23,5% dan 22%. Sensitivitas dan spesifisitas rasio massa otot terhadap massa lemak dan memprediksi sindrom metabolik 67,6 % dan 67,1 % dengan *Cut off* 1,4. Indikator yang paling sensitif dan spesifik dalam memprediksi sindrom metabolik yaitu rasio massa otot terhadap massa lemak dengan keuntungan lebih murah dan tidak invasif.

Rasio massa otot terhadap massa lemak dapat dilanjutkan sebagai prediktor sindrom metabolik di masyarakat.

Kata kunci : Sindrom metabolik, adiponektin, irisin, rasio massa otot lemak

ABSTRACT

ANALYSIS OF SENSITIVITY AND SPECIFICITY OF ADIPONECTIN LEVELS, IRISIN AND RATIO OF MUSCLE MASS TO FAT MASS OF ADULT WOMEN OF THE MINANG TRIBE IN PREDICTING METABOLIC SYNDROME

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Adipokines, such as adiponectin and myokine irisin, are the main mediators of inflammation in metabolic syndrome. Muscle mass and fat mass are also associated with insulin resistance and metabolic syndrome. This cross-sectional study aims to analyze the sensitivity and specificity of adiponectin, irisin levels, and the ratio of muscle mass to fat mass in predicting metabolic syndrome in adult Minang women.

158 adult women aged 25–44 years living in Kabupaten Pesisir Selatan were selected using simple random sampling. Blood sampling by laboratory analysts. Data includes nutritional status, body composition, blood profile, and adiponectin and irisin levels. Body composition data were measured using BIA, blood profiles were analyzed at the West Sumatra Health Laboratory, and ELISA analysis was performed at the Biomedical Laboratory.

The incidence of metabolic syndrome was found to be 24%. The mean adiponectin level of respondents was $5.49 + 2.82 \mu\text{g/ml}$, the mean was lower in the metabolic syndrome group. The mean irisin level of respondents was $18.1 + 8.36 \mu\text{g/ml}$, the mean was higher in the metabolic syndrome group. The mean ratio of muscle mass to fat mass of respondents was $1.67 + 0.7$, the mean was lower in the metabolic syndrome group. The sensitivity and specificity of adiponectin in predicting metabolic syndrome are 58.8% and 68.5%, with a cut-off of $4.3 \mu\text{g/ml}$. The sensitivity and specificity of irisin in predicting metabolic syndrome were 23.5% and 22%. The sensitivity and specificity of the ratio of muscle mass to fat mass and predicting metabolic syndrome were 67.6% and 67.1%, with a cut-off of 1.4. The most sensitive and specific indicator in predicting metabolic syndrome is the ratio of muscle mass to fat mass, with the advantage of being cheaper and less invasive.

The ratio of muscle mass to fat mass can be continued as a predictor of metabolic syndrome in society.

Keywords: Metabolic syndrome, adiponectin, irisin, muscle fat mass ratio