

## INTISARI

**Latar belakang:** Diabetes melitus gestasional (DMG) merupakan komplikasi kehamilan yang paling umum terjadi. Prevalensi DMG di dunia berkisar antara 1-36%. Diabetes mellitus gestasional meningkatkan mortalitas dan morbiditas baik bagi ibu maupun bayi. Hingga saat ini terdapat beberapa metode penegakan diagnosis DMG. Metode TTGO 75 gram dengan *one step approach* direkomendasikan oleh IADPSG dan sesuai dengan WHO namun metode ini memiliki beberapa kekurangan. Indeks *Homeostasis model assessment for insulin resistance* (HOMA-IR) merupakan parameter yang digunakan untuk menilai keparahan resistensi insulin yang merupakan salah satu patofisiologi utama terjadinya DMG. Terdapat beberapa *cut-off value* HOMA-IR dalam menegakkan diagnosis DMG pada berbagai negara. Di Indonesia sendiri, belum ada studi untuk penentuan *cut-off value* HOMA-IR untuk menegakkan diagnosis DMG.

**Tujuan :** Untuk mengetahui *cut-off value* terbaik dan performa diagnostik HOMA-IR untuk menegakkan diagnosis diabetes mellitus gestasional.

**Metode:** Penelitian ini merupakan studi observasional analitik dengan desain potong lintang. Penelitian ini melibatkan wanita hamil usia gestasi 24-28 minggu yang dikelompokkan pada ibu hamil non-DMG dan DMG berdasarkan kriteria IADPSG dan diukur indeks HOMA-IR nya serta diukur penampilan diagnostik HOMA-IR dalam mendiagnosis DMG.

**Hasil:** Penelitian ini melibatkan 214 subjek memenuhi kriteria inklusi dan eksklusi. Kelompok DMG sejumlah 26 subjek dan non DMG sebanyak 188 subjek. Kurva ROC didapatkan nilai AUC 0,802,  $p < 0,001$ , menunjukkan HOMA-IR mempunyai kekuatan diagnostik baik. *Cut-off* HOMA-IR sebesar 1,26 memiliki sensitivitas 80,8% dan spesifisitas 70,7%.

**Simpulan:** HOMA-IR dengan *cut-off value* 1,26 memiliki AUC 0,802  $p < 0,001$  dengan sensitivitas 80,8% dan spesifisitas 70,7% untuk mendiagnosis diabetes mellitus gestasional.

**Kata kunci:** DMG, diagnosis, HOMA-IR, resistensi insulin.

## ABSTRACT

**Background:** Gestational diabetes mellitus (GDM) is the most common pregnancy complication. The prevalence of GDM varies from 1-36%. Gestational diabetes mellitus increases mortality and morbidity for both mother and baby. Until now there are several methods for diagnosing DMG. WHO recommends a 75 gram TTGO method with a one step approach, in accordance with IADPSG recommendations, but this method has several shortcomings. The Homeostasis Index assessment model for insulin resistance (HOMA-IR) is a parameter used to assess the severity of insulin resistance which is one of the main DMG pathophysiology. There are several *cut-off values* (COV) of HOMA-IR in establishing the diagnosis of DMG in several countries. In Indonesia, there was no studies for determining the *cut-off value* of HOMA-IR in establishing the diagnosis of GDM

**Objective:** To determine the best cut-off value and diagnostic performance of HOMA-IR to diagnose gestational diabetes mellitus.

**Method:** This was an observational analytic study with a cross-sectional design. This study involved pregnant women with gestational age of 24-28 weeks grouped in non-GDM and GDM pregnant women based on IADPSG criteria and measured their HOMA-IR index and measured the diagnostic performance of HOMA-IR in diagnosing GDM.

**Results:** This study involved 214 subjects meeting the inclusion and exclusion criteria. The DMG group consisted of 26 subjects and non-DMG as many as 188 subjects. The ROC curve obtained an AUC value of 0.802,  $p < 0.001$ , indicating that HOMA-IR has good diagnostic power. The HOMA-IR cut-off of 1.26 had a sensitivity of 80,8% and a specificity of 70,7%.

**Conclusion:** HOMA-IR has good diagnostic power with AUC 0.802  $p < 0.001$ . HOMA-IR with a *cut-off value* of 1.26 had a sensitivity of 80,8% and specificity of 70,7% for diagnosing gestational diabetes mellitus.

**Keywords:** GDM, diagnosis, HOMA-IR, insulin resistance