

INTISARI

Latar belakang: Federasi Diabetes Internasional (IDF) memperkirakan bahwa 21,3 juta atau 16,2 % kelahiran hidup berasal dari wanita dengan hiperglikemia dan 86,4 % nya karena diabetes melitus gestasional (DMG). Aterogenik dapat meningkatkan risiko terjadinya DMG dan DMG dapat mengakibatkan komplikasi aterogenik. Tujuan penelitian ini adalah untuk mengevaluasi indeks aterogenik pada ibu hamil dengan DMG dibandingkan tanpa DMG.

Metode penelitian: Penelitian ini merupakan studi observasional potong lintang. Kriteria DMG ditetapkan berdasarkan *International Association of Diabetes and Pregnancy Study Groups* (IAPDSG). Subjek penelitian adalah ibu hamil usia kehamilan 24-28 minggu yang tidak menderita diabetes melitus (DM) sebelum kehamilan yang melakukan pemeriksaan di 8 Puskesmas wilayah kerja propinsi Daerah Istimewa Yogyakarta. Pemeriksaan glukosa darah dan lipid berdasarkan metode enzimatis kolorimetri. Uji beda karakteristik subjek dan indeks aterogenik menggunakan *Independent t test* untuk distribusi normal dan uji *Mann Whitney U test* untuk distribusi tidak normal (menggunakan SPSS versi 18,0), dan $p < 0,05$ dianggap signifikan secara statistik.

Hasil penelitian: Subjek penelitian sebanyak 68 ibu hamil, 24 DMG, dan 64 tanpa DMG. Median usia ibu DMG 33 (24 - 42) tahun lebih tua secara bermakna dibandingkan ibu tanpa DMG 27(20-41) tahun ($p < 0,001$). Median Indeks Massa Tubuh (IMT) ibu DMG 28,88 (16,23-41,65) kg/m^2 lebih tinggi secara bermakna dibandingkan ibu tanpa DMG 24,22 (16,87-37,53) kg/m^2 ($p = 0,006$). Pada penelitian ini tidak terdapat perbedaan yang bermakna pada tinggi badan, tekanan darah, proporsi jumlah kehamilan, proporsi abortus, proporsi riwayat keluarga DM, proporsi pendidikan, proporsi pekerjaan ibu, kadar kolesterol, dan kadar LDL. Rerata kadar trigliserid pada ibu DMG $262,83 \pm 85,54$ mg/dl lebih tinggi secara bermakna dibandingkan ibu tanpa DMG $143,50 \pm 30,45$ mg/dl ($p = 0,002$). Rerata kadar *High Density Lipoprotein* (HDL) pada ibu DMG $55,33 \pm 10,17$ mg/dl lebih rendah secara bermakna dibandingkan ibu tanpa DMG $65,59 \pm 12,14$ mg/dl ($p = 0,001$). Rerata indeks aterogenik ibu DMG $0,66 \pm 0,18$ lebih tinggi secara bermakna dibandingkan ibu tanpa DMG $0,340 \pm 0,14$ ($p < 0,0001$).

Simpulan: Rerata indeks aterogenik pada ibu hamil dengan DMG lebih tinggi secara bermakna dibandingkan ibu hamil tanpa DMG.

Kata kunci: Diabetes Melitus Gestasional, Indeks Aterogenik, Kehamilan, Glukosa, Obesitas

ABSTRACT

Background: The International Diabetes Federation (IDF) estimates that 21.3 million or 16.2% of live births are from women with hyperglycemia, 86.4% due to gestational diabetes mellitus (GDM). Atherogenic can increase the risk of GDM and GDM can lead to atherogenic complications. The aim of this study was to evaluate the atherogenic index in pregnant women with GDM compared to without GDM.

Research method: This study is a cross-sectional observational study. Gestational Diabetes Mellitus criteria are established based on the International Association of Diabetes and Pregnancy Study Groups (IAPDSG). The research subjects were pregnant women 24-28 weeks of gestation who did not suffer from diabetes mellitus (DM) before pregnancy who carried out examinations at 8 health centers in the working area of the province of the Special Region of Yogyakarta. Examination of blood glucose and lipids based colorimetric enzymatic methods. Different test of subject characteristics and atherogenic index used the Independent t test for normal distribution and the Mann Whitney U test for abnormal distribution (using SPSS version 18.0), and $p < 0.05$ was considered statistically significant.

Results: The research subjects were 68 pregnant women, 24 GDM, and 64 without GDM. The median age of GDM mothers was 33 (24 - 42) years significantly older than mothers without GDM (20-41) years ($p < 0.001$). Median Body Mass Index (BMI) of mothers with GDM 28.88 (16.23-41.65) kg / m^2 was significantly higher than mothers without GDM 24.22 (16.87-37.53) kg / m^2 ($p = 0.006$). In this study, there were no significant differences in height, blood pressure, the proportion of the number of pregnancies, the proportion of abortions, the proportion of family history of DM, the proportion of education, the proportion of maternal occupation, cholesterol levels, and LDL levels. The mean of triglyceride levels in GDM mothers was $262.83 \pm 85.54 \text{ mg} / \text{dl}$ significantly higher than mothers without GDM $143.50 \pm 30.45 \text{ mg} / \text{dl}$ ($p = 0.002$). The mean high density lipoprotein (HDL) levels in GDM mothers $55.33 \pm 10.17 \text{ mg} / \text{dl}$ were significantly lower than those without GDM $65.59 \pm 12.14 \text{ mg} / \text{dl}$ ($p = 0.001$). The mean atherogenic index of GDM mothers was 0.66 ± 0.18 significantly higher than mothers without GDM 0.34 ± 0.14 ($p < 0.0001$).

Conclusion: The mean of atherogenic index in pregnant women with GDM was significantly higher than in pregnant women without GDM.

Keywords: Gestational Diabetes Mellitus, Pregnancy, Atherogenic Index, Glucose, Obesity