

## Hubungan antara kualitas diet dengan tekanan darah dan gula darah pada ibu hamil di Jakarta = Associations of diet quality with blood pressure level and blood glucose level among pregnant women in Jakarta

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### Abstrak

Prevalensi hipertensi dan diabetes saat kehamilan meningkat setiap tahunnya. Diet adalah salah satu factor resiko yang dapat dirubah dapat berpengaruh terhadap komplikasi saat kehamilan, tetapi data terkait kualitas diet dan pengaruhnya terhadap tekanan dan gula darah diantara ibu hamil masih sedikit. Studi ini bertujuan untuk mengetahui hubungan antara kualitas diet dengan tekanan darah dan gula darah pada ibu hamil di Jakarta. Studi potong lintang ini adalah bagian dari proyek Brain Probiotic and LC-PUFA Intervention for Optimum Early Life (BRAVE) yang melibatkan 174 ibu hamil yang direkrut secara *consecutive sampling* berlokasi di tiga area di Jakarta. Kualitas diet di tentukan dengan menggunakan skor *Alternate Healthy Eating Index for Pregnancy* diperoleh dari 2 hari 24-hour recall. Gula darah kapiler puasa digunakan untuk mengukur konsentrasi gula darah pada responden, sedangkan tekanan darah diukur menggunakan *sphygmomanometer* otomatis. Karakteristik subjek dinilai menggunakan kuesioner terstruktur. Hubungan antara kualitas diet dengan tekanan darah dan gula darah dianalisis menggunakan *multiple linear regression*. Mayoritas subjek berada pada rentang usia 20 dan 34 tahun (75.9%), multiparitas (61.5%), tidak memiliki riwayat gestational diabetes (97.1%) dan hipertensi (93.1%). Nilai median dari skor kualitas diet sebesar 47.44 (19.18-76.6). Tidak terdapat hubungan yang ditemukan antara kualitas diet dengan gula darah (1.02, p=0.36) setelah dilakukan penyesuaian terhadap edukasi, riwayat diabetes mellitus dan riwayat gestational diabetes mellitus. Selanjutnya, hubungan total skor dari kualitas diet dengan tekanan darah sistolik tidak ditemukan (-0.16, p=0.87), namun terdapat hubungan yang hampir signifikan dengan tekanan darah diastolik (-1.23, p=0.09) setelah dilakukan penyesuaian terhadap merokok, riwayat hipertensi dan riwayat keluarga hipertensi. Kesimpulannya kualitas diet memiliki hubungan yang hampir signifikan dengan kualitas diet. Kualitas diet menjadi salah satu faktor resiko dari pola hidup yang dapat dimodifikasi untuk mempertahankan kesehatan ibu hamil. Selama hamil dan sebelum melahirkan, ibu perlu menjaga kualitas dietnya.

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Prevalence of gestational hypertension and diabetes in pregnancy are increasing over the years. Diet is modifiable risk factor that may influence these problems, but data regarding diet quality affecting blood pressure and glucose profile-among pregnant women remain scarce. We assessed associations of diet quality with blood pressure and glucose level among pregnant women in Jakarta. This cross-sectional study was part of preliminary study of Brain Probiotic and LC-PUFA Intervention for Optimum Early Life (BRAVE) project, which recruited 176 pregnant women by using consecutive sampling in three districts of Jakarta. Socio-demographic characteristics of participants were identified by trained field-enumerators using a structured questionnaire. Diet quality indicated by Alternate Healthy Eating Index for Pregnancy (AHEI-P) score was obtained from the calculation of multiple 24-hour recalls. Blood pressure was measured using automated sphygmomanometer, while fasting capillary glucose was performed to assess blood glucose level.

The associations between diet quality with blood pressure and glucose levels were analyzed using multiple linear regression. Most of women were between 20 and 34 years old (76%), do not have history of gestational diabetes (97%) and hypertension (93%). The median score of dietary quality was 47.4 (19.1-76.6). There was no association between AHEI-P score with blood glucose (1.02,  $p=0.36$ ) after adjustment for education, history of diabetes mellitus and history of gestational diabetes mellitus. Furthermore, association between total score of diet quality and systolic blood pressure was not found (-0.16,  $p=0.87$ ), however there was a borderline significant association with diastolic blood pressure (-1.23,  $p=0.09$ ) after adjustment for smoking, education, history of hypertension and family history hypertension. In conclusion, diet quality had borderline significant association with blood pressure among pregnant women, whereas diet quality was not significantly associate with blood glucose among pregnant women in Jakarta, even though after adjustment for confounding factors. Diet quality is one of lifestyle risk factor that can be modified during pregnancy in order to maintain optimal health of the mother. Pregnant women should maintain quality of the diet, as well as prior pregnancy.