

# CORRELATION BETWEEN WAIST AND HIP CIRCUMFERENCE RATIO WITH FASTING BLOOD GLUCOSE LEVELS IN WOMEN AGED 35-45 YEARS IN SIDOMULYO VILLAGE, EAST UNGARAN

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## ABSTRACT

**Background :** According to the International Diabetes Federation in 2021, the prevalence of diabetes mellitus at the age of 20-79 years in the world is 10.5% and is expected to be 12.2% in 2045. The increase in the prevalence of diabetes mellitus is in line with the prevalence of central obesity one of the major risk factors for diabetes mellitus. The waist-to-hip ratio can help identify the incidence of diabetes mellitus based on blood glucose levels.

**Objective :** The purpose of the research to correlation between waist and hip circumference ratio with fasting blood glucose levels in women aged 35-45 years.

**Methods :** The study design use analytics with a *cross-sectional* approach. The subject is 88 respondent was taken by *accidental sampling*. Data taken included waist circumference, hip circumference, and fasting blood glucose levels. The data were analysed by *Rank-Spearman*.

**Results :** The result showed, respondents average waist and hip circumference ratios was  $0.84 \pm 0.046$ . The respondents' average fasting blood glucose level was  $100.5 \pm 13.9$  mg/dL. There is a relationship between waist-hip circumference and fasting blood glucose levels ( $p$  value = 0.000;  $r = 0.628$ ) in women aged 35-45 years and the direction of the positive correlation indicates that the greater the Waist Hip Circumference Ratio, the higher the Fasting Blood Glucose Levels of respondents.

**Conclusion:** A significant relationship exists between Waist Hip Circumference Ratio and Fasting Blood Glucose Levels in Women Aged 35-45 Years in Sidomulyo Village.

**Keywords** : Fasting Blood Glucose Levels, Waist Hip Circumference Ratio, and Women.

**References** : 42 (2009 – 2023)

**HUBUNGAN RASIO LINGKAR PINGGANG PANGGUL DENGAN KADAR  
GLUKOSA DARAH PUASA PADA WANITA USIA 35-45 TAHUN DI KELURAHAN  
SIDOMULYO  
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**ABSTRAK**

**Latar belakang :** Menurut *International Diabetes Federation* tahun 2021 prevalensi penderita diabetes melitus pada usia 20-79 tahun di dunia sebesar 10,5% dan diperkirakan akan menjadi 12,2% pada tahun 2045. Peningkatan prevalensi diabetes melitus sejalan dengan prevalensi obesitas sentral yang merupakan salah satu faktor mayor risiko diabetes melitus. Rasio lingkaran pinggang panggul dapat membantu mengidentifikasi angka kejadian diabetes melitus berdasarkan kadar glukosa darah.

**Tujuan :** Menganalisis hubungan Rasio Lingkaran Pinggang Panggul (RLPP) dengan Kadar Glukosa Darah pada Wanita Usia 35-45 Tahun.

**Metode :** Desain penelitian menggunakan analitik dengan pendekatan *cross-sectional*. Sampel yang ditentukan menggunakan *accidental sampling* sejumlah 88 responden. Data yang diambil meliputi lingkaran pinggang, lingkaran panggul, dan kadar glukosa darah puasa. Analisis data menggunakan uji korelasi Rank-Spearman.

**Hasil :** Rata-rata RLPP pada responden  $0.84 \pm 0.046$ . Rata-rata GDP pada responden  $100.5 \pm 13.9$  mg/dL. Terdapat hubungan antara lingkaran pinggang panggul dengan kadar glukosa darah puasa ( $p$  value = 0.000;  $r = 0.628$ ) pada wanita usia 35-45 tahun dan arah korelasi yang positif menandakan bahwa semakin besar RLPP maka semakin tinggi pula GDP responden.

**Simpulan :** Terdapat hubungan yang signifikan antara Rasio Lingkaran Pinggang Panggul (RLPP) dengan Kadar Glukosa Darah Puasa (GDP) pada Wanita Usia 35-45 Tahun di Kelurahan Sidomulyo.

**Kata kunci** : Kadar Glukosa Darah Puasa, Rasio Lingkaran Pinggang Panggul, Wanita

**Kepustakaan** : 42 (2009 – 2023)