

HUBUNGAN POLA MAKAN SUMBER PROTEIN DAN STATUS GIZI TERHADAP FUNGSI GINJAL

Khalda Shahiba Chairunnisa, Susetyowati, Yulia Wardhani

Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan

Universitas Gadjah Mada

ABSTRAK

Latar belakang: Pola makan merupakan salah satu aspek penting yang mempengaruhi kesehatan. Pola makan yang tidak baik berpotensi menyebabkan obesitas pada individu. Tingkat metabolisme basal yang lebih tinggi dimiliki oleh seseorang dengan berat badan berlebih atau obesitas bila dibandingkan dengan individu dengan berat badan normal. Hal tersebut akan direspon oleh organ ginjal dengan mekanisme hiperfiltrasi sehingga pemenuhan kebutuhan tubuh akan terbantu. Upaya penurunan berat badan dilakukan dengan salah satunya adalah peningkatan konsumsi protein yang dianggap mampu meningkatkan rasa kenyang sehingga *intake* kalori dapat berkurang. Peningkatan konsumsi protein ini menimbulkan kekhawatiran khusus terhadap asupan protein yang tinggi mampu meningkatkan tekanan glomerulus serta hiperfiltrasi ginjal. Namun, perlu dikaji lebih dalam apakah terdapat bukti yang mendukung hubungan ini pada individu sehat dewasa.

Tujuan: Mengetahui hubungan pola makan sumber protein dan status gizi terhadap fungsi ginjal berdasarkan estimasi *Glomerulus Filtration Rate* (eGFR).

Metode: Desain penelitian ini adalah *cross sectional*. Sampel didapatkan dengan metode *purposive sampling*. Pola makan sumber protein diukur dengan pertanyaan dari Kuesioner Indeks Pola Makan Sehat Indonesia serta ditambahkan data *food recall* 24 jam. Status gizi diukur berdasarkan Indeks Massa Tubuh (IMT), lingkaran pinggang, Rasio Lingkaran Pinggang Panggul (RLPP), dan *visceral fat*. Analisis bivariat yang digunakan adalah uji *Rank Spearman* dan *Chi Square*.

Hasil: Hasil uji statistik menunjukkan bahwa tidak terdapat hubungan yang signifikan secara statistik antara pola makan sumber protein, yaitu protein hewani ($p=0,998$), protein nabati ($p=0,674$), makanan olahan protein ($p=0,600$), serta protein dalam g/kgBB ($p=0,855$) terhadap fungsi ginjal berdasarkan eGFR. Terdapat hubungan yang signifikan secara statistik antara status gizi yaitu, lingkaran pinggang ($p=0,042$; $r=-0,143$), RLPP ($p=0,012$; $r=-0,177$), dan *visceral fat* ($p<0,001$; $r=-0,347$) terhadap fungsi ginjal, tetapi tidak terdapat hubungan antara IMT ($p=0,415$; $r=-0,057$) terhadap fungsi ginjal berdasarkan eGFR.

Kesimpulan: Tidak terdapat hubungan yang signifikan secara statistik antara pola makan sumber protein terhadap fungsi ginjal berdasarkan eGFR. Terdapat hubungan yang signifikan secara statistik antara status gizi berdasarkan lingkaran pinggang, RLPP, dan *visceral fat* terhadap fungsi ginjal tetapi tidak terdapat hubungan yang signifikan antara IMT dengan fungsi ginjal berdasarkan eGFR.

Kata Kunci: Pola makan sumber protein, status gizi, fungsi ginjal, eGFR.

RELATIONSHIP BETWEEN DIETARY PATTERNS OF PROTEIN SOURCES AND NUTRITION STATUS ON KIDNEY FUNCTION

Khalda Shahiba Chairunnisa, Susetyowati, Yulia Wardhani

Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan

Universitas Gadjah Mada

ABSTRACT

Background: Dietary patterns is one of the important aspect that influences health. Poor diet has the potential to cause obesity in individuals. A higher basal metabolic rate is possessed by someone with excess weight or obesity when compared to individuals with normal weight. This will be responded by the kidney organ with a hyperfiltration mechanism so that the fulfillment of the body's needs will be helped. Efforts to reduce weight include increasing protein consumption, which is thought to increase satiety so that calorie intake can be reduced. The increase of protein consumption raises particular concerns regarding high protein intake which can increase glomerular pressure and renal hyperfiltration. However, it needs to be studied more deeply whether there is evidence to support this relationship in healthy adults individuals.

Objective: This study aims to determine the relationship between dietary patterns of protein sources and nutritional status on kidney function based on estimates of Glomerular Filtration Rate.

Methods: This study used a cross sectional study design. Sample were obtained using the purposive sampling method. Dietary patterns of protein sources were measured using questions from Indonesian Healthy Eating Index Questionnaire and 24-hour food recall. Nutritional status was measured based on Body Mass Index (BMI), waist circumference, Waist to hip Ratio (WHR), and visceral fat. Bivariate analysis was performed using the Spearman Rank and Chi Square tests.

Results: Statistical test results showed that there was no significant relationship ($p>0,05$) between dietary patterns of protein sources such as animal protein ($p=0,998$), plant based protein ($p=0,674$), processed food protein ($p=0,600$), as well as protein in g/kgBB ($p=0,855$) on kidney function based on eGFR. There was a significant relationship between nutritional status, such as waist circumference ($p=0,042$; $r=-0,143$), WHR ($p=0,012$; $r=-0,177$), and *visceral fat* ($p<0,001$; $r=-0,347$) on kidney function, but there was no significant relationship between BMI ($p=0,415$; $r=-0,057$) on kidney function based on eGFR.

Conclusion: There is no significant relationship between dietary protein sources and kidney function based on eGFR. There is a significant relationship between nutritional status, such as waist circumference, WHR, and visceral fat on kidney function but there is no significant relationship between BMI and kidney function based on eGFR.

Keywords: Dietary protein patterns, nutritional status, kidney function, eGFR