

Dietary Patterns of the Metabolic Syndrome Among Older Adults in Malaysia (Corak Pemakanan bagi Sindrom Metabolik dalam Kalangan Warga Tua di Malaysia)

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ABSTRACT

The term metabolic syndrome (MetS) describes a clustering of risk factors for cardiovascular disease and type 2 diabetes mellitus which include high blood pressure, low fasting high-density lipoprotein cholesterol (HDL-c), high fasting triglyceride (TG), high fasting blood glucose (BG), and abdominal obesity. The aim of this cross sectional study was to determine the dietary patterns (DPs) associated with MetS among 451 older adults in Malaysia. Food intake was determined using validated Diet History. DP was identified based on 40 food groups by using principal component analysis (PCA), and the factors were rotated by varimax rotation. Fasting venous blood samples were taken to determine HDL-c, TG and BG level. Blood pressure and anthropometric measurements were also performed. Three major dietary patterns have been identified; 1) bread, spreads and oats, 2) Malaysia traditional pancakes and 3) vegetables and healthy cooked dishes. Three models were built to compare the potential confounder such as age, education years, marital status, calorie intakes, cigarette smoking and body mass indeks (BMI). Only vegetables and healthy cooked dishes DP was associated with MetS. This DP reflects high consumption of various types of vegetables, noodle in soup, healthy cooked fish or seafood and low consumption of all type of high calorie rice, noodles and fried desserts. For all models, subject in the highest tertile of vegetables and healthy cooked dishes DP had a lower odd ratio (OR) for MetS as compared to lowest tertile. As more potential confounders added in new models, the significant values are increased. After adjustment of body mass index, the association for vegetables and healthy cooked dishes DP was attenuated (OR: 0.67, CI: 0.39-1.16, p: 0.156). In conclusion, high consumption of vegetable and healthy cooked dishes may lower the occurrence of MetS among Malaysian elderly.

Keywords: Dietary patterns; metabolic syndrome; older adult

ABSTRAK

Sindrom metabolik (MetS) merupakan satu kluster faktor risiko bagi penyakit kardiovaskular (CVD) dan diabetes mellitus jenis (DM) 2 dimana ianya termasuklah tekanan darah yang tinggi, aras kolesterol lipoprotein ketumpatan tinggi (HDL-c) berpuasa yang rendah, aras trigliserida (TG) berpuasa yang tinggi, aras gula berpuasa (BG) yang tinggi serta obesiti abdomen. Kajian ini merupakan kajian hirisan lintang dan bertujuan untuk menentukan corak pemakanan (DP) yang berkaitan dengan MetS dikalangan 451 orang warga tua di Malaysia. Pengambilan makanan telah diambil menggunakan borang soal selidik sejarah pengambilan makanan yang telah divalidasi bagi warga tua. DP telah dikenalpasti daripada 40 kumpulan makanan melalui analisis komponen dengan putaran varimaks. Sampel darah berpuasa diambil dari vena bagi menentukan aras HDL-c, TG dan BG, tekanan darah antropometri turut diukur. Tiga corak DP utama telah dikenalpasti; 1) roti, sapan serta oat, 2) roti tradisional Malaysia 3) sayur-sayuran dan masakan sihat. Tiga model telah dibina bagi membandingkan faktor pembauran termasuklah umur, tahun pendidikan, status perkahwinan, pengambilan kalori, status merokok dan indeks jisim tubuh (IJT). Didapati, hanya DP sayur-sayuran serta masakan sihat yang mempunyai kaitan yang signifikan dengan MetS. DP ini menunjukkan tinggi pengambilan pelbagai jenis sayur-sayuran, mee sup, ikan dan hasil laut yang dimasak secara sihat, serta kurang pengambilan nasi dan mee yang berkalori tinggi dan kuih muih goreng. Bagi kesemua model, subjek yang berada di tertail paling tinggi DP ini mempunyai nisbah odd (OR) terhadap MetS yang lebih rendah jika dibandingkan dengan tertail paling rendah. Semakin banyak faktor pembauran dimasukkan didalam model, semakin meningkat nilai signifikan. Setelah BMI dimasukkan kedalam model, perkaitan signifikan diantara DP sayur-sayuran dan masakan sihat terhenti (OR: 0.67, CI: 0.39-1.16, p:0.156). Sebagai kesimpulan, pengambilan sayur-sayuran dan masakan sihat yang tinggi mungkin mengurangkan kejadian MetS dikalangan warga tua di Malaysia.

Kata kunci: Corak pemakanan; sindrom metabolic; warga emas

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