

Indeks Glikemik dan Beban Glikemik pada Cookies Tepung Biji Nangka (*Artocarpus heterophyllus* Lamk)

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INTISARI

Latar Belakang : Prevalensi penyakit Diabetes mellitus (DM) terus meningkat secara global, termasuk di Indonesia. Menurut Riskesdas prevalensi diabetes mellitus tahun 2013 di Indonesia adalah 2,1 persen, lebih tinggi dibandingkan tahun 2007 yang hanya 1,1 persen. Salah satu cara pencegahan penyakit DM adalah dengan pengaturan pola makan dan pemilihan konsumsi pangan yang tepat (Irawati, 2012) Salah satu alternatif konsumsi makanan yang berfungsi mencegah dan mengobati penyakit adalah dengan pendekatan berdasarkan konsep indeks glikemik (IG) dan beban glikemik (BG) makanan.

Tujuan : mengetahui nilai IG dan BG *cookies* berbahan dasar tepung biji nangka dengan formula A (30% tepung biji nangka: 70% tepung terigu) dan formula B (60% tepung biji nangka: 40% tepung terigu)

Metode : Jenis penelitian ini adalah penelitian quasi eksperimental dengan rancangan *pre and post control design* yaitu menghitung nilai IG dan BG *cookies* tepung biji nangka pada 12 orang responden dengan melihat respon kenaikan kadar glukosa darah responden pada glukosa darah puasa, menit ke-30, 60, 90 dan 120 setelah mengkonsumsi pangan acuan, pangan uji *cookies* formula A dan formula B dengan kandungan karbohidrat setara 50 gram gula. Masing-masing perlakuan diberi jarak pemberian selama 7 hari. Penentuan nilai IG diketahui dengan menghitung luas kurva respon pangan uji dibagi pangan acuan kali 100. Nilai BG diketahui melalui perhitungan jumlah available karbohidrat dalam 1 porsi penyajian dikali nilai IG pangan uji dan dibagi 100.

Hasil : Nilai IG *cookies* formula A 26,89 dan *cookies* formula B 24,79. Kedua *cookies* tergolong bernilai IG rendah. Analisis statistik menunjukkan bahwa nilai IG *cookies* formula A dan B sama ($p>0,05$). Nilai BG *cookies* formula A 12,43 dan *cookies* formula B 10,58. Nilai BG kedua *cookies* tergolong sedang ($p>0,05$)

Kesimpulan : *Cookies* formula B mempunyai nilai IG dan BG lebih rendah dibandingkan dengan *cookies* formula A pada takaran porsi yang sama

Kata Kunci : Indeks glikemik, beban glikemik, *cookies* tepung biji nangka, diabetes mellitus

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Glycemic Index and Glycemic Load on Jackfruit Seed Flour Cookies (*Artocarpus heterophyllus* Lamk)

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ABSTRACT

Background: The prevalence of diabetes mellitus (DM) continues to increase globally, including in Indonesia. Riskesdas (2013) shows prevalence of diabetes mellitus in Indonesia was 2.1 percent, grew higher than since 2007 which was only 1.1 percent. One of the prevention of type 2 diabetes mellitus (T2DM) is using dietary intake adjustments and selection of appropriate food consumption. To selecting alternative consumption is based on glycemic index (GI) and glycemic load (GL) of food.

Objective: To determine the value of GI and GL of cookies made from jackfruit seed flour. The cookies were divided into two formulas. Formula A (30% jackfruit seed flour : 70% flour) and formula B (60% jackfruit seed flour : 40% wheat flour)

Methods: The study is a *quasi experimental study* with *pre- and post-control design*. The value of GI and GL was measured in 12 respondents by observing the rising level of blood glucose response following 8-hours fasting. Time points were 30 minutes, 60, 90 and 120 after consuming food reference (50 gram of glucose), and test food (cookies formula A and formula B) with a similar carbohydrate content as food reference. Each treatment was given separately between 7 days. The value of GI was determined by calculating the area under the curve (AUC) of the response of test food divided by the AUC of the reference food then multiplied by 100. The value of GL was done by calculating the amount of available carbohydrate in one serving of food multiplied by value of the GI and divided by 100.

Results: The GI value of formula A cookies is 26,89 and formula B is 24.79. Both cookies are classified as low GI-value. Statistical analysis showed that the GI values of cookies formulas A and B was equal ($p>0.05$). the GL values of formula A cookies is 12,43 and formula B is 10.58. Glycemic load values of both cookies were classified as moderate. Statistical analysis showed that the GL value of cookies formulas A and B was equal ($p>0.05$)

Conclusion: Formula B cookies have the GI and GL values lower than the formula A cookies for the same portions of serving

Keywords: glycemic index, glycemic load, jackfruit seed flour cookies, diabetes mellitus

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