

Kandungan Makronutrien dan Magnesium *Snack Bar* Tepung Cangkang Telur dan Biji Saga Pohon (*Adenanthera pavonina L.*) sebagai Alternatif Selingan bagi Penderita Hipertensi

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ABSTRAK

Latar belakang: Cangkang telur adalah limbah pangan yang mengandung magnesium tinggi. Biji saga pohon adalah leguminosa yang mengandung karbohidrat tinggi serat, protein tinggi, asam lemak tak jenuh tinggi, dan magnesium tinggi. Kedua bahan tersebut dapat dijadikan alternatif *snack bar* sebagai makanan selingan penderita hipertensi.

Tujuan: Mengetahui kandungan makronutrien dan magnesium pada *snack bar* cangkang telur dan biji saga pohon sebagai alternatif selingan bagi penderita hipertensi.

Metode: Penelitian eksperimental rancangan acak lengkap dengan perbandingan tepung cangkang telur dan tepung biji saga pohon yaitu F0 (0%:0%), F1 (7%:20%), F2 (8%:15%), dan F3 (9%:10%). Kandungan makronutrien meliputi kandungan karbohidrat dihitung menggunakan metode *by-difference*, protein menggunakan metode Kjeldahl, lemak menggunakan metode Soxhlet, kadar air serta abu menggunakan metode Gravimetri, dan magnesium menggunakan metode *Atom Absorption Spectrophotometry*. Analisis data menggunakan uji *One-way ANOVA* dan *Kruskal-Wallis*.

Hasil: Kandungan gizi *snack bar* pada kelompok formulasi F0, F1, F2, F3 secara berurutan yaitu karbohidrat sebesar 64,53%, 58,72%, 60,75%, 61,87%; protein sebesar 6,96%; 8,16%; 7,67%; 7,53%; lemak sebesar 13,36%; 12,52%; 11,58%; 11,01%; kadar air sebesar 13,86%; 18,85%; 17,81%; 16,99%; kadar abu sebesar 1,29%; 1,77%; 2,1%; 2,78%; dan magnesium sebesar 2,66 mg; 7,92 mg; 16,93 mg; 22,51 mg. Ada perbedaan nyata penambahan tepung cangkang telur dan tepung biji saga pohon terhadap kandungan makronutrien dan magnesium *snack bar*.

Simpulan: Penambahan tepung cangkang telur dan tepung biji saga pohon pada setiap formulasi berpengaruh terhadap kandungan makronutrien dan magnesium *snack bar* dengan kandungan karbohidrat tertinggi pada F0, protein pada F1, lemak pada F0, kadar air pada F1, kadar abu pada F3, dan magnesium pada F3.

Kata kunci: cangkang telur, biji saga pohon, makronutrien, magnesium, *snack bar*

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Macronutrient and Magnesium Content of Eggshell and Saga Seeds Flour (*Adenanthera pavonina L.*) Snack Bar as Alternative Snack for Hypertension

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ABSTRACT

Background: Eggshells are food waste that contain high levels of magnesium. Saga seeds are legumes that contain high fiber, high protein, high unsaturated fatty acids and high magnesium. These two ingredients can be used as an alternative snack bar as a snack for people with hypertension.

Objective: To determine the macronutrient and magnesium content in eggshell and saga seeds snack bar as an alternative snack for people with hypertension.

Method: Experimental research with a completely randomized design with a comparison of eggshell and saga seed flour, namely F0 (0%:0%) , F1 (7%:20%), F2 (8%:15%), and F3 (9%:10%). Macronutrient content includes carbohydrate content calculated using the by-difference method , protein using the Kjeldahl method, fat using the Soxhlet method, water and ash content using the Gravimetric method, and magnesium using the Atomic Absorption Spectrophotometry method . Data analysis used One-way ANOVA and Kruskal-Wallis test.

Results: The nutritional content of snack bars in the F0, F1, F2, F3 formulation groups, namely carbohydrates, by 64,53%; 58,72%; 60,75%; 61,87%; protein by 6,96%; 8,16%; 7,67%; 7,53%; fat by 13,36%; 12,52%; 11,58%; 11,01%; water content by 13,86%; 18,85%; 17,81%; 16,99%; ash content by 1,29%; 1,77%; 2,1%; 2,78%; and magnesium by 2,66 mg; 7,92 mg; 16,93 mg; 22,51 mg. There is a significant effect in the addition of eggshell and saga seed flour on the macronutrient and magnesium content of snack bars .

Conclusion: The addition of eggshell and saga seed flour to each formulation has an effect on the macronutrient and magnesium content of snack bars with the highest carbohydrate content in F0, protein in F1, fat in F0, water content in F1, ash content in F3, and magnesium on F3.

Key words: eggshells, saga seeds, macronutrients, magnesium, snack bars

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