

Kandungan Energi, Zat Gizi Makro dan Vitamin A pada Kukis Berbahan Dasar Tepung Ubi Ungu dan Tepung Ikan Teri sebagai Selingan Balita Gizi Kurang

Aurellia Putri Ardiansyah¹, Nurmasari Widyastuti¹, Dewi Marfu'ah Kurniawati¹, Martha Aridiaria¹

ABSTRAK

Latar Belakang: Energi, protein, lemak, karbohidrat dan vitamin A merupakan zat gizi yang diperlukan balita. Apabila terjadi defisiensi zat tersebut akan menyebabkan gizi kurang. Kukis tepung ubi ungu dan tepung ikan teri merupakan inovasi kukis yang dapat digunakan sebagai PMT balita gizi kurang karena tepung ikan teri mengandung tinggi protein, sedangkan tepung ubi ungu unggul dalam energi, karbohidrat dan β -karoten sebagai provitamin A.

Tujuan: untuk mengetahui kandungan energi, protein, lemak, karbohidrat dan vitamin A pada kukis tepung ubi ungu dan tepung ikan teri.

Metode: Penelitian eksperimental Rancangan Acak Lengkap (RAL) dengan 3 perlakuan perbandingan komposisi tepung ubi ungu dan tepung ikan teri, F1 (95g : 5g), F2 (90g : 10g), dan F3 (85g : 15g). Kandungan protein menggunakan metode kjeldahl, lemak dengan metode Soxhlet, karbohidrat dengan perhitungan *by difference*, energi dengan perhitungan zat gizi makro, dan vitamin A dengan spektrofotometri. Kandungan energi, protein, lemak dan vitamin A dianalisis dengan uji ANOVA. Kandungan karbohidrat dianalisis dengan uji Kruskal-wallis.

Hasil: Dalam 100 g kukis mengandung energi 376-384 kkal, protein 7,39-10,80 g, lemak 12,49-13,36 g, karbohidrat 56,58-62,13 g, β -karoten 569,62-1027,88 mcg, dan vitamin A 47,47-85,66 RE. Penggunaan tepung ubi ungu dan tepung ikan teri berpengaruh pada energi ($p=0,000$), protein ($p=0,000$), lemak ($p=0,006$) dan vitamin A ($p=0,000$), namun tidak berpengaruh pada karbohidrat ($p=0,061$).

Simpulan: Kandungan protein pada F2 dan F3, lemak memenuhi standard Permenkes, dan kandungan energi mendekati batas minimal. Kandungan karbohidrat dan vitamin A tertinggi pada F1. Terdapat beda kandungan energi, protein, lemak dan vitamin A pada setiap formulasi. Serta tidak ada beda pada kandungan karbohidrat tiap formulasi.

Kata Kunci: *kukis, ubi ungu, ikan teri, zat gizi makro, vitamin A*

¹Program Studi Gizi, Fakultas Kedokteran, Universitas Diponegoro, Semarang

Energy, Macronutrient and Vitamin A Content in Cookies Made with Purple Sweet Potato Flour and Anchovy Flour as a Diversion for Malnourished Toddlers

Aurellia Putri Ardiansyah¹, Nurmasari Widyastuti¹, Dewi Marfu'ah Kurniawati¹, Martha Aridiaria¹

ABSTRACT

Background: Energy, proteins, lipids, carbohydrates and vitamin A are some of the nutrients needed by toddlers. If toddlers are deficient in these substances, it will lead to malnutrition. The cookie made with purple sweet potato flour and anchovy flour is an innovation that can be used as a supplementary food (PMT) for malnourished toddlers. Anchovy flour contains a high protein, while purple sweet potato flour excels in energy, carbohydrates and β -carotene (provitamin A).

Objective: This study aims to determine the energy, protein, lipid, carbohydrate and vitamin A content of Cookie made with purple sweet potato flour and anchovy flour.

Methods: This experimental research uses a completely randomized design with 3 comparison treatments of the composition of purple sweet potato flour and anchovy flour, F1 (95g : 5g), F2 (90g : 10g), and F3 (85g : 15g). Protein content was analyzed using the Kjeldahl method, lipid according to the Soxhlet method, carbohydrates calculated by difference, energy calculated by macronutrients and vitamin A by spectrophotometry. The energy, protein, lipid and vitamin A content was analyzed by the ANOVA test. The carbohydrate content was analyzed by the Kruskal-Wallis test.

Results: In 100 g cookies contain energy 376 – 384 kcal, protein 7,39 – 10,80 g, lipid 12,49 – 13,36 g, carbohydrate 56,58 – 62,13 g, β -carotene 569,62 – 1027,88 mcg and vitamin A 47,47 – 85,66 RE. Using that two kind of flour had an effect on energy ($p=0,000$), protein ($p=0,000$), lipid ($p=0,006$), and vitamin A ($p=0,000$), but had no effect on carbohydrate ($p=0,061$).

Conclusion: The protein content in F2 and F3, as well as lipid, meet the standards based on the Permenkes, energy content is close to the minimum limit. The highest content of carbohydrates and vitamin A is found in F1. There are differences in energy, protein, fat and vitamin A content in each formulation. And there is no difference in the carbohydrate content of each formulation.

Keyword: Cookies, purple sweet potato, anchovies, macronutrients, vitamin A

¹Nutrition Science Department, Medical Faculty of Diponegoro University, Semarang