

PENGEMBANGAN FORMULA ENTERAL UNTUK PASIEN KANKER DI RSUD dr. TJITROWARDOJO PURWOREJO

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ABSTRAK

Latar Belakang: Pasien kanker berisiko mengalami malnutrisi karena mengalami hipermetabolisme dan asupan oral tidak adekuat. Pada kondisi tertentu kebutuhan gizi tidak dapat dipenuhi dalam bentuk makanan padat bahkan tidak dapat melalui jalur oral, maka pemberian makanan enteral menjadi pilihan yang tepat untuk pemberian makanan diet bagi pasien. Pengembangan formula enteral untuk pasien kanker berbasis tepung kacang hijau, putih telur dan jeruk manis dipilih sebagai alternatif pemberian formula enteral komersial yang mahal. Kacang hijau dan putih telur mengandung protein serta isofalvon dan polifenol yang dapat mengatur nafsu makan dan menghambat penyebaran sel kanker.

Tujuan: Mengetahui nilai gizi, viskositas, osmolaritas, sifat organoleptik, dan biaya produk formula enteral modifikasi FECA untuk pasien kanker.

Metode: Penelitian ini merupakan penelitian deskriptif komparatif dengan membandingkan hasil formula enteral modifikasi dan formula enteral komersial. Formula enteral modifikasi dibuat dengan bahan tepung kacang hijau, putih telur, jeruk manis, minyak, susu skim, dan gula pasir. Nilai gizi diukur menggunakan label gizi pada produk dan TKPI, viskositas dan osmolaritas dihitung menggunakan uji alir sederhana, uji sifat organoleptik dilakukan oleh 20 orang panelis agak terlatih menggunakan formulir, serta biaya produk dihitung berdasarkan total biaya bahan baku dan biaya *overhead*.

Hasil: Nilai gizi Formula enteral modifikasi FECA dalam satu saji adalah energi sebesar 351,5 kkal, protein 20,1 gram (22,8%), lemak 8,9 gram (22,7%) dan karbohidrat 54,9 gram (55,4%) dan densitas kalori sebesar 1,004 kkal/ml. Formula enteral modifikasi FECA memiliki warna kuning, rasa khas susu manis dan kacang hijau, kekentalan/Tekstur cair, dan aroma jeruk. Formula enteral modifikasi FECA memiliki *foodcost* Rp. 5.742,5 dan *unit cost* Rp. 9.331,06, viskositas sebesar 1,18 cP, dan osmolaritas sebesar 460 mOsm/kg air.

Kesimpulan: Formula enteral modifikasi FECA memiliki nilai gizi, viskositas, osmolaritas, dan sifat organoleptik yang serupa dengan formula enteral komersil Nutrican dan sudah memenuhi syarat formula enteral tinggi protein.

Kata Kunci : Kanker, formula enteral, kacang hijau, putih telur, jeruk manis.

DEVELOPMENT OF ENTERAL FORMULA FOR CANCER PATIENTS AT dr. TJITROWARDOJO HOSPITAL, PURWOREJO

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ABSTRACT

Background: Cancer patients are at risk of malnutrition due to hypermetabolism and inadequate oral intake. In certain conditions, nutritional needs cannot be met in the form of solid food or even through the oral route, so enteral feeding is the right choice for providing diet food for patients. The development of enteral formula for cancer patients based on mung bean flour, egg white and sweet orange was chosen as an alternative to providing expensive commercial enteral formula. Mung beans and egg white contain protein as well as isoflavones and polyphenols that can regulate appetite and inhibit the spread of cancer cells.

Objective: To determine the nutritional value, viscosity, osmolality, organoleptic properties, and cost of FECA modified enteral formula products for cancer patients.

Methods: This study is a comparative descriptive study by comparing the results of modified enteral formula and commercial enteral formula. Modified enteral formula was made from mung bean flour, egg white, sweet orange, oil, skim milk, and granulated sugar. Nutritional value was measured using the nutrition label on the product and TKPI, viscosity and osmolality were calculated using a simple flow test, organoleptic properties were tested by 20 semi-trained panelists using a form, and product costs were calculated based on the total cost of raw materials and overhead costs.

Results: The nutritional value of FECA modified enteral formula in one serving is 351.5 kcal of energy, 20.1 grams of protein (22.8%), 8.9 grams of fat (22.7%) and 54.9 grams of carbohydrate (55.4%) and a calorie density of 1,004 kcal/ml. FECA modified enteral formula has a yellow color, a distinctive taste of sweet milk and green beans, a liquid viscosity/texture, and an orange aroma. FECA modified enteral formula has a food cost of Rp. 5,742.5 and a unit cost of Rp. 9,331.06, a viscosity of 1.18 cP, and an osmolality of 460 mOsm/kg of water.

Conclusion: The FECA modified enteral formula has similar nutritional value, viscosity, osmolality, and organoleptic properties to the commercial Nutrican enteral formula and meets the requirements for a high-protein enteral formula.

Keywords: Cancer, enteral formula, mung beans, egg white, sweet orange.

Background