

Analisis Zat Gizi dan Uji Viskositas Formula Enteral Berbasis Tepung Biji Labu Kuning dan Isolat Protein Kedelai Untuk Pasien Stroke

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ABSTRAK

Latar belakang: Stroke merupakan penyebab utama kecacatan yang sering menimbulkan komplikasi seperti disfagia, yaitu gangguan menelan yang dialami oleh sekitar 24–53% pasien stroke, serta dapat menyebabkan malnutrisi dan aspirasi. Kondisi ini memerlukan dukungan nutrisi enteral dengan komposisi zat gizi dan viskositas yang sesuai. Tepung biji labu kuning dan isolat protein kedelai merupakan bahan lokal potensial sebagai sumber lemak, protein, dan zink.

Tujuan: Mengetahui dan menganalisis perbedaan kandungan zat gizi makro, zink, dan viskositas dari formula enteral modifikasi berbasis tepung biji labu kuning dan isolat protein kedelai.

Metode: Penelitian eksperimental dengan Rancangan Acak Lengkap (RAL) menggunakan tiga formulasi: P1 (25%:25%), P2 (15%:35%), dan P3 (35%:15%). Analisis kandungan zat gizi dilakukan dengan metode proksimat dan ICP-OES, sedangkan viskositas diuji menggunakan viskometer Ostwald. Data dianalisis dengan ANOVA satu arah dan uji post hoc Duncan.

Hasil: Terdapat perbedaan signifikan ($p < 0,05$) antar ketiga formula. Formula P2 memiliki kandungan energi (447,3 kkal), lemak (16,3%), dan zink (2,61 mg/100g) tertinggi. Formula P3 memiliki kadar protein (36,71%) dan karbohidrat (47,54%) tertinggi. Ketiga formula memiliki densitas energi 1,0–1,2 kkal/ml dan viskositas 1,18–1,97 cP.

Kesimpulan: Formula enteral modifikasi berbasis biji labu kuning dan isolat protein kedelai memiliki potensi sebagai alternatif nutrisi enteral yang sesuai untuk pasien stroke ditinjau dari kecukupan gizi dan viskositas yang memenuhi standar pemberian enteral.

Kata kunci: formula enteral, stroke, viskositas, biji labu kuning, isolat protein kedelai

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Nutritional Content Analysis and Viscosity Evaluation of Enteral Formula Based on Pumpkin Seed Flour and Soy Protein Isolate for Stroke Patients

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ABSTRACT

Background: Stroke is a leading cause of disability and often results in complications such as dysphagia, which affects approximately 24–53% of stroke patients. Dysphagia increases the risk of malnutrition and aspiration, making enteral nutrition support with appropriate nutrient content and viscosity essential. Pumpkin seed flour and soy protein isolate are promising local ingredients rich in fat, protein, and zinc.

Objective: To determine the macronutrient content, zinc levels, and viscosity of a modified enteral formula based on pumpkin seed flour and soy protein isolate.

Methods: This experimental study used a completely randomized design with three formulations: P1 (25%:25%), P2 (15%:35%), and P3 (35%:15%). Nutrient content was analyzed using proximate methods and ICP-OES, while viscosity was measured using an Ostwald viscometer. Data were analyzed with one-way ANOVA and post hoc testing.

Results: Significant differences ($p < 0.05$) were found among all formulations. P2 had the highest energy (447.3 kcal), fat (16.3%), and zinc (2.61 mg/100g). P3 had the highest protein (36.71%) and carbohydrate (47.54%) levels. All formulas had energy density between 1.0–1.2 kcal/ml and viscosity within 1.18–1.97 cP.

Conclusion: The modified enteral formulas meet nutritional and viscosity standards, suggesting their potential as alternative enteral nutrition for stroke patients.

Keywords: enteral formula, stroke, viscosity, pumpkin seed, soy protein isolate

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