

ABSTRAK

MODIFIKASI FORMULA ENTERAL *BLENDERIZED* TINGGI KALORI TINGGI PROTEIN BERBASIS PANGAN LOKAL IKAN LELE (*Clarias batrachus*) DAN JAMBU BIJI MERAH (*Psidium guajava L.*) UNTUK PENDERITA TUBERKULOSIS

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Latar Belakang: Tuberkulosis (TB) merupakan penyakit infeksi dengan jumlah kasus 885.000 di Indonesia tahun 2024 dan menjadi penyebab malnutrisi akibat peningkatan kebutuhan gizi serta penurunan nafsu makan. Formula enteral tinggi kalori tinggi protein (TKTP) diperlukan untuk memenuhi kebutuhan gizi pasien TB. Penelitian ini bertujuan memodifikasi formula enteral blenderized berbahan lokal ikan lele dan jambu biji merah sebagai alternatif formula di RSUD Banyumas.

Metodologi: Penelitian menggunakan desain true experimental dengan Rancangan Acak Kelompok (RAK) nonfaktorial satu faktor, yaitu proporsi substitusi lele dan jambu biji merah pada tiga taraf perlakuan: F1 (30 g:50 g), F2 (35 g:45 g), dan F3 (40 g:40 g). Uji viskositas dianalisis dengan one-way ANOVA dilanjutkan Tukey HSD ($\alpha=5\%$), sedangkan uji sensori menggunakan Friedman test dan Wilcoxon ($\alpha=5\%$).

Hasil Penelitian: Modifikasi proporsi berpengaruh signifikan ($p<0,05$) terhadap rasa pada uji hedonik, serta rasa, tekstur, dan viskositas pada uji mutu hedonik, viskositas diukur menggunakan viskometer, dan uji alir selang FR16 dan FR18. Formula F3 merupakan formula terbaik dengan skor panelis pada warna, aroma, rasa, dan tekstur kategori agak suka-suka. F3 memiliki warna cokelat muda, aroma tidak amis, tekstur cair agak kental, rasa jambu sedang, serta viskositas 292,00 cP (*nectar-like*). Kandungan gizi per 250 mL adalah energi 300 kkal, protein 15,95 g, lemak 11 g, dan karbohidrat 35 g, dengan rekomendasi pemberian 4–7 kali per hari sesuai kebutuhan energi pasien TB.

Kesimpulan: Modifikasi proporsi lele dan jambu biji merah berpengaruh signifikan terhadap rasa pada uji hedonik, rasa serta tekstur pada mutu hedonik, dan viskositas, dengan F3 sebagai formula terbaik.

Kata Kunci: Ikan Lele, Jambu Biji Merah, Tuberkulosis, Formula Enteral, TKTP

ABSTRACT

MODIFICATION OF HIGH-CALORIE, HIGH-PROTEIN BLENDERIZED ENTERAL FORMULA BASED ON LOCAL FOOD SOURCES: CATFISH (*Clarias batrachus*) AND RED GUAVA (*Psidium guajava L.*) FOR TUBERCULOSIS PATIENTS

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Background Tuberculosis (TB) is an infectious disease with 885,000 cases reported in Indonesia in 2024 and is a major cause of malnutrition due to increased nutritional requirements and reduced appetite. High-calorie high-protein (HCHP) enteral formulas are needed to meet the nutritional needs of TB patients. This study aimed to develop a blenderized enteral formula using local ingredients, catfish and red guava, as an alternative formula at Banyumas District Hospital.

Methods: This study used a true experimental design with a non-factorial Randomized Block Design (RBD), consisting of one factor, namely the substitution ratio of catfish and red guava at three treatment levels: F1 (30 g:50 g), F2 (35 g:45 g), and F3 (40 g:40 g). Viscosity was analyzed using one-way ANOVA followed by Tukey HSD ($\alpha=5\%$), while sensory tests were analyzed using Friedman and Wilcoxon tests ($\alpha=5\%$).

Results: Modification of proportions significantly affected ($p<0.05$) taste in the hedonic test, as well as taste and texture in the hedonic quality test, viscosity which was measured with a viscometer and flow test using FR16 and FR18 tubes. Formula F3 was identified as the best formula, with panelists rating color, aroma, taste, and texture between slightly like and like. F3 was characterized by light brown color, non-fishy aroma, slightly thick liquid texture, moderate guava taste, and viscosity of 292.00 cP (nectar-like). Nutritional content per 250 mL was 300 kcal energy, 15.95 g protein, 11 g fat, and 35 g carbohydrates, with recommended administration of 4–7 times daily according to TB patients' energy needs.

Conclusions: : Modification of catfish and red guava proportions significantly taste in the hedonic test, as well as taste and texture in the hedonic quality test and viscosity, with F3 as the best formula.

Keywords: Catfish, Red Guava, Tuberculosis, Enteral Formula, High-calorie High-protein