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Research Article

The Acceptability of a *Tempe* and Rice Bran Flour Combination Formula for Anti-hyperlipidemia and Antioxidative Stress

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Abstract

Background and Objective: Dyslipidemia is a lipid metabolic disorder caused by complex interactions between genetic factors, lifestyle and decreased estrogen hormones. The decrease in endogenous estrogen hormones correlates with changes in the distribution of body fat and central obesity. Thus, the decrease in estrogen causes oxidative stress. Antioxidants are compounds that can prevent the occurrence of free radicals through the prevention of oxidation reactions. The best exogenous antioxidant is vitamin E (Tocopherol). One of the natural and safe Tocopherol sources is rice bran. Another antioxidant that has hypolipidemic properties is isoflavone, which is found in soybean *tempe*, can increase the superoxide dismutase (SOD) level. This study aimed to find the most preferred combination of *tempe* and rice bran flour. **Materials and Method:** This study was conducted through a quasi-experiment using Mono-factorial Completely Randomized Design (CRD). The Friedman method and the Wilcoxon test were used for the analyses of the organoleptic test data. **Results:** Based on the results of the hedonic test, which was based on the combination of raw materials, the panelists preferred the formula of yellow soybean flour: white rice bran flour, which resulted in the following values for color (2.98), aroma (3.14), viscosity (3.30) and taste (3.25) on a scale of 1-4. Based on the results of the hedonic test, which was based on variations, the composition formula of yellow soybean flour and white rice bran flour at a 1:1 ratio was most preferred by panelists according to the results of the parameters of color (3.21), aroma (3.18), viscosity (3.29) and taste (3.05). The Wilcoxon test results showed a significant difference ($p \leq 0.05$) for each variation in the raw materials and each combination of the formula ratios. **Conclusion:** The variation in raw materials selected by the panelists was the combination of yellow *tempe* flour and yellow rice bran at a composition of 1:1.

Key words: Anti-hyperlipidemia, flour combination formula, oxidative anti-stress, Rice Bran, *tempe*, white rice bran flour, yellow *tempe* flour

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Competing interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.

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