

COMBINATION OF “BOSE” GRINDED CORN, BROWN RICE, AND LONTAR NATURAL SUGAR AS AN ALTERNATIVE FOOD COMPANION FOR PATIENTS WITH DEGENERATIVE DISEASE

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ABSTRACT

Background: Lifestyle and dietary pattern of society in East Nusa Tenggara (NTT) has experienced nutritional epidemiological transition that invoke unhealthy diet, which eventually increases the risk of degenerative diseases. NTT has some local food biodiversity, but it has not been well utilized by society. The purpose of this study was to combine bosc grinded corn, brown rice, and lontar natural sugar as an alternative food companion for patients with degenerative disease.

Subjects and Method: This was a randomized control trial (RCT) conducted at Nutrition Laboratory, School of Health Sciences, Ministry of Health, Kupang, NTT. The study subjects were human and mice. The mice study subjects were randomized into two groups: the experimental group and control group. The independent variables was combination of grinded corn, brown rice, and lontar natural sugar. The dependent variables were macronutrient content, blood sugar level, high density lipoprotein (HDL), low density lipoprotein (LDL), triglyceride level, and product acceptance. Protein content was measured by semi-micro Kjeldahl. Fat was measured by soxhlet extraction method. Carbohydrate was measured by difference and amount of energy. The panelist acceptance rate was assessed using hedonic scale test. Blood sugar, cholesterol, and serum triglyceride level were measured by cobasmira tool. Difference in means between two groups were tested by t-test.

Results: The combination of bosc grinded corn, brown rice flour, and lontar natural sugar in lieu of sugar increased macronutrient content of the P11-P33 biscuit formula with an average protein (10.15% to 13.07%), fat (14.42% to 16.78%), and carbohydrate (70.15% to 76.72%). This indicated that the biscuit formula met the SNI: 01-2973-1992 requirement. Hedonic scale test showed that the taste of the tested food was acceptable. The combination improved macronutrient content, lowered blood sugar level, increased HDL level, and lowered triglyceride level, and they were statistically significant.

Conclusion: The combination of bosc grinded corn flour, brown rice flour, and lontar natural sugar can improve macronutrient content, lower blood sugar level, increase HDL level, and lower triglyceride level in animal blood.

Keywords: bosc grinded corn, brown rice, lontar natural sugar

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