ABSTRACT

Dietary changes caused by socio-economic changes and appetite which keep the concept of a balanced diet away, can have a negative impact on health and nutrition, among others, hypertension (high blood pressure), diabetes mellitus (diabetes) and others. Therefore, there is a need to formula alternative snacks for people with diabetes to help meet the nutritional needs and control blood glucose levels. The research objective was to analyze the received power (color, flavor, texture and taste), nutritional value, glycemic index levels and the economic value of the addition of brown rice flour (*Oryza nivara*) and date palm (*Phoenix dactylifera*) on making brownies.

The type of research in the development of products stage using true experimental on the processing stage with Completely Randomize Double (RAL Double) and 5 replications and continued by organoleptic test using quasi-experimental study by using a completely randomized design with five replications, with 7 treatments (and control) in first experiment, and the second stage was organoleptic test in the formula of 5 treatments. Total of panelist in the first experiment evaluation was done by 4 professional panelists and by 30 none skilled panelists. Techniques of analysis were descriptive analysis and statistical analysis to know the differences of acceptance by using Friedman test and Wilcoxon Sign Rank Test at \( \alpha = 0.05 \).

Organoleptic test results that the most favored formula was F0 (control) and the least preferred was F4 (25% brown rice flour and 40% of dates). Nutrient calculations based the Indonesian food composition data in one portion of brownies, the highest energy content was F4 (458,8 kcal), the highest protein content was the F4 (10,4 g), the highest fat content was F0 (24 g), the highest carbohydrate content was F4 (27, 8 g) and the highest glycemic index was F0 (52,32). Based on the results of laboratory nutritional value (energy, protein, fats and carbohydrates) per 100 g brownies on the best formula (F3) was of 127,39 kcal energy, 3,75% protein, 10,59% fat and 4,27% carbohydrates.

The conclusion of this study is brownies F3 (75% brown rice flour and 30% of dates) has optimum formula and can be used as an alternative snack for patients with diabetes mellitus.

**Keyword**: Brownies, Red Rice Flour, Dates, Glycemic Index