

ABSTRAK

Nirbaya, Arindra. 2015. **Nilai Gizi Proximat dan Serat Kasar Susu sereal Tepung Komposit Bagi Penderita Diabetes Mellitus Tipe 2.** Tugas Akhir, Program Studi Ilmu Gizi Fakultas Kedokteran Universitas Brawijaya.

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Diabetes mellitus tipe 2 merupakan penyakit metabolik dengan karakteristik hiperglikemia akibat kelainan kerja insulin. Terapi nutrisi dilakukan untuk mencegah kejadian *undernutrition* dan membantu mengontrol kadar gula. Tepung beras hitam tinggi karbohidrat kompleks, serat dan antioksidan. Tepung tempe sebagai sumber protein dan lemak dengan kandungan asam amino ketogenik yang bernilai biologis tinggi. Tepung susu skim sebagai sumber protein dengan bioavailabilitas tinggi dan mampu memperbaiki cita rasa dan aroma produk. Tujuan penelitian untuk mengetahui nilai gizi proximat dan serat kasar susu sereal tepung komposit (tepung beras hitam, tepung tempe, tepung susu skim) bagi penderita diabetes mellitus tipe 2. Jenis penelitian adalah penelitian eksperimen laboratorium dengan desain percobaan Rancangan Acak Lengkap (RAL) menggunakan 3 taraf perlakuan (P1, P2, P3). Penelitian dilaksanakan bulan Agustus–Desember 2014. Hasil analisis statistik *One Way Anova* menunjukkan bahwa proporsi bahan penyusun memberikan perbedaan yang signifikan terhadap kadar protein ($\alpha=0,003$) dan kadar karbohidrat ($\alpha=0,015$), namun memberikan perbedaan yang tidak signifikan terhadap kadar lemak ($\alpha=0,148$), kadar air ($\alpha=0,153$), kadar abu ($\alpha=0,202$), kandungan energi ($\alpha=0,274$) dan serat kasar ($\alpha=0,271$). Disimpulkan mutu gizi P2 merupakan taraf perlakuan terbaik yang sesuai standar diet Perkeni dengan rata-rata kadar protein $10,48\pm 0,67\%$, Lemak $24,64\pm 1,98\%$, air $6,27\pm 0,15\%$, abu $2,11\pm 0,03\%$, karbohidrat $58,31\pm 0,93\%$, energi $489,68\pm 9,59\%$, serat kasar $2,52\pm 0,29\%$. Penelitian lebih lanjut dapat dilakukan dengan uji mutu organoleptik secara objektif, uji *Glycemic Load* (GL) serta efek terhadap kadar gula darah yang dilakukan pada hewan coba.

Kata Kunci: Diabetes mellitus tipe 2, susu sereal tepung komposit.

ABSTRACT

Nirbaya, Arindra. 2015. **Nutritional Value Proximate and Crude Fibers Cereals Flour Composites for Patients with Diabetes Mellitus Type 2**. Final Project, Department of Nutritional Sciences Faculty of Medicine, University of Brawijaya. Advisor: (1) Yosfi Rahmi, S, Gz., M.Sc (2) titis Kusuma Sari, S.Gz

Diabetes mellitus type 2 is a metabolic disease which has characteristic hyperglycemia due to abnormalities of insulin action. Nutritional therapy is to prevent the incidence of under nutrition and helps control glucose levels. Black rice flour contains of carbohydrates complex, fiber and antioxidants. Soybean flour as a source of protein and fat ketogenic amino acids of high biological valuable. Skim milk powder as a protein source with high bioavailability, able to improve the taste and the flavor of the product. The objective of the research is to determine the nutritional value proximate and crude fibers cereals flour composites for the suffer from type 2 diabetes mellitus. This research is using laboratory experimental research design with completely randomized design (CRD) which is using 3-stage treatment (P1, P2, P3). The study was conducted in August-December 2014. The result of One Way Anova statistical analysis showed that the proportion of building blocks provide a significant difference to the levels of the protein ($\alpha = 0.003$) and carbohydrates ($\alpha = 0.015$), but gives no significant difference to the levels of fat ($\alpha = 0.148$), water content ($\alpha = 0.153$), ash ($\alpha = 0.202$), the energy level ($\alpha = 0.274$) and crude fiber ($\alpha = 0.271$). The Conclusion is the nutritional quality of P2 is the best treatment level corresponding to the average standard Perkeni diet, average protein content of $10.48 \pm 0.67\%$, $24.64 \pm 1.98\%$ fat, $6.27 \pm 0.15\%$ water, ash 2, $11 \pm 0.03\%$, $58.31 \pm 0.93\%$ carbohydrates, $489.68 \pm 9.59\%$ energy, crude fiber $2.52 \pm 0.29\%$. Further research can be done with an objective organoleptic quality test, Glycemic Load (GL) test and the effectiveness of the product towards glucose level which is applied on animals.

Keywords: Diabetes mellitus type 2, cereal flour composites.