RINGKASAN

Dislipidemia merupakan kelainan metabolisme lipid ditunjukkan dengan adanya peningkatan kadar kolesterol total, kadar kolesterol LDL (*Low Density Lipoprotein*) dan kadar trigliserida, serta terjadinya penurunan pada kadar HDL (*High Density Lipoprotein*). Dislipidemia bisa memicu terjadinya penyakit jantung koroner. Terapi secara medika mentosa menggunakan obat hipolipidemia/ penurun kadar lipid mempunyai efek samping berupa demensia dan gangguan kognitif ringan. Oleh sebab itu perlu di cari alternatif pengobatan dengan efek samping yang minim melalui pengembangan pangan fungsional berbasis potensi lokal. Salah satu komponen fungsional dalam pangan yang berperan dalam perbaikan profil lipid adalah antioksidan. Pada penelitian ini mengembangkan produk minuman berbahan komoditas lokal yaitu berupa bekatul, tepung tempe dan temulawak. Penelitian ini bertujuan 1) Menentukan minuman tepung tempe, tepung bekatul, tepung temulawak (MBTT) hasil terbaik didasarkan pada aspek sensori, 2) Mengevaluasi hasil analisis kimia produk MBTT hasil terbaik dari aspek sensori yaitu uji kadar air, kadar abu, protein, lemak, serat pangan tak larut, serat pangan terlarut, serat pangan total, antioksidan dan karbohidrat, 3) Mengkaji pengaruh pemberian minuman fungsional tepung tempe, tepung bekatul dan tepung temulawak terhadap profil lipid pada tikus putih *Sprague dawley* (SD) jantan dislipidemia.

Penelitian ini terdiri dari 2 tahap, yaitu formulasi (tahap 1) dan pengujian produk MBTT terhadap tikus hiperlipidemia (tahap 2). Penelitian tahap 1 terdiri dari penentuan formulasi produk untuk menentukan formula MBTT terbaik didasarkan pada aspek sensori. Penelitian tahap 1 merupakan penelitian non faktorial menggunakan Rancangan Acak Lengkap (RAL), diulang sebanyak lima kali. Pada penelitian ini dilakukan pengamatan berupa analisis sensori, dan analisis kimia. Pada analisis sensori, variabel yang diamati adalah warna, aroma, rasa, flavor, dan kesukaan terhadap produk. Hasil terbaik dari aspek sensori kemudian dilakukan analisis kimia dan pengujian terhadap profil lipid tikus dislipidemia. Parameter yang diujikan pada analisis kimia yaitu kadar air, kadar abu, protein, lemak, serat pangan tak larut, serat pangan terlarut, serat pangan total, antioksidan dan karbohidrat. Pada tikus dislipidemia parameter yang diamati yaitu kadar kolesterol, kadar LDL, kadar HDL dan kadar trigliserida.

Hasil penelitian menunjukkan bahwa data hasil uji sensori produk MBTT selanjutnya dianalisis menggunakan uji indeks efektivitas untuk mengetahui produk MBTT terbaik. Formula MBTT yang dibuat dengaan proporsi bekatul 20%, tepung tempe 30%, tepung temulawak 25% merupakan hasil terbaik berdasarkan uji indeks efektivitas dari aspek sensori. Karakteristik kimia MBTT hasil terbaik sebagai berikut kadar air 7,47%, kadar abu 3,7%, protein 17,68%, lemak 14,8%, serat

pangan tak larut 26,6%, serat pangan terlarut 1,66%, serat pangan total 28,2%, karbohidrat 52,57%, dan kadar antioksidan 94,2 ppm. Pemberian MBTT pada tikus hiperlipidemia selama 4 minggu mampu meperbaiki profil lipid yaitu dengan menurunkan kadar kolesterol darah dari 185,51 mg/dL menjadi 97,41 mg/dL atau menurun sebesar 88,1 mg/dL (kolesterol normal), menurunkan kadar LDL darah dari 79,12 mg/dL menjadi 27,33 mg/dL atau menurun sebesar 51,79 mg/dL (LDL normal), meningkatkan kadar HDL darah dari 28,91 mg/dL menjadi 79,51 mg/dL atau meningkat sebesar 50,6 mg/dL (HDL normal), mampu menurunkan kadar trigliserida darah dari 124,74 mg/dL menjadi 77,73 mg/dL atau menurun sebanyak 47,01 mg/dL (trigliserida normal).

SUMARRY

Dyslipidemia is a lipid metabolism disorder indicated by an increase in total cholesterol levels, LDL (Low Density Lipoprotein) cholesterol levels, and triglyceride levels, as well as a decrease in HDL (High Density Lipoprotein) levels. Dyslipidemia can trigger coronary heart disease. Medical therapy using hypolipidemia/lipid lowering drugs has side effects in the form of dementia and mild cognitive impairment. Therefore, it is necessary to look for alternative treatments with minimal side effects through the development of functional foods based on local potential. One of the functional components in food that plays a role in improving the lipid profile is antioxidants. In this research, we developed beverage products made from local commodities, namely rice bran, tempeh flour and curcuma. This research aims to 1) Determine the best results of tempe flour, rice bran flour, curcuma flour (MBTT) drinks based on sensory aspects, 2) Evaluate the results of chemical analysis of MBTT products with the best results from sensory aspects, namely testing water content, ash content, protein, fat, insoluble dietary fiber, soluble dietary fiber, total dietary fiber, antioxidants, and carbohydrates, 3) Examining the effect of providing functional drinks of tempeh flour, rice bran flour, and curcuma flour on the lipid profile in male white Sprague Dawley (SD) rats with dyslipidemia.

This research consisted of 2 stages, namely formulation (stage 1) and testing of MBTT products on hyperlipidemic mice (stage 2). Phase 1 research consists of determining the product formulation to determine the best MBTT formula based on sensory aspects. Phase 1 research is non-factorial research using a Completely Randomized Design (CRD), repeated five times. In this research, observations were carried out in the form of sensory analysis and chemical analysis. In sensory analysis, the variables observed are color, aroma, taste, flavor and preference for the product. The best results from the sensory aspect were then carried out by chemical analysis and testing of the lipid profile of dyslipidemic mice. The parameters tested in chemical analysis are water content, ash content, protein, fat, insoluble dietary fiber, soluble dietary fiber, total dietary fiber, antioxidants and carbohydrates. In dyslipidemic mice, the parameters observed were cholesterol levels, LDL levels, HDL levels and triglyceride levels.

The research results showed that the data from the sensory test results of the MBTT product were then analyzed using an effectiveness index test to determine the best MBTT product. The MBTT formula made with a proportion of 20% rice bran, 30% tempeh flour, 25% ginger flour was the best result based on the effectiveness index test from the sensory aspect. The chemical characteristics of MBTT for the best results are as follows: water content 7.47%, ash content 3.7%, protein 17.68%, fat 14.8%, insoluble dietary fiber 26.6%, soluble dietary fiber 1.66%, total dietary fiber 28.2%, carbohydrates 52.57%, and antioxidant levels 94.2

ppm. Giving MBTT to hyperlipidemic mice for 4 weeks was able to improve the lipid profile, namely by reducing blood cholesterol levels from 185.51 mg/dL to 97.41 mg/dL or decreasing by 88.1 mg/dL (normal cholesterol), reducing blood LDL levels. from 79.12 mg/dL to 27.33 mg/dL or decreased by 51.79 mg/dL (normal LDL), increased blood HDL levels from 28.91 mg/dL to 79.51 mg/dL or increased by 50 .6 mg/dL (normal HDL), can reduce blood triglyceride levels from 124.74 mg/dL to 77.73 mg/dL or decrease by 47.01 mg/dL (normal triglycerides).