

ABSTRAK

Anjani, Prasanti Mahesa. 2014. **Pengaruh Pemberian Peptida Polisakarida (PsP) *Ganoderma lucidum* terhadap Kadar Profil Lipid Tikus (*Rattus Norvegicus*) Model Diabetes Mellitus Tipe 2**. Tugas Akhir, Program Studi Pendidikan Dokter, Fakultas Kedokteran Universitas Brawijaya. Pembimbing: (1) Prof. Dr.dr. H.Djangan Sargowo, Sp.PD, Sp.JP (K), FIHA, FACC, FCAPC (2) Titin Andri Wihastuti, S.Kp, M.Kes

Meningkatnya insiden penyakit kardiovaskular yang disebabkan oleh plak aterosklerosis telah mendorong banyak ilmuwan untuk mengembangkan pengobatan baru untuk penyakit ini, termasuk penggunaan peptida polisakarida (PsP) *Ganoderma lucidum*. Penelitian ini bertujuan untuk membuktikan pengaruh peptida polisakarida (PsP) *Ganoderma lucidum* terhadap profil lipid pada tikus model diabetes mellitus tipe 2. Sebanyak 25 ekor *Rattus Norvegicus* Strain Wistar dibagi menjadi lima kelompok (n=5 ekor) yaitu kelompok tikus dengan diet normal (kontrol negatif), kelompok tikus model diabetes mellitus tipe 2 (kontrol positif), kelompok tikus model diabetes mellitus tipe 2 yang diberi terapi PsP dosis rendah (50mg/kgBB), kelompok tikus model diabetes mellitus tipe 2 yang diberi terapi PsP dosis sedang (150mg/kgBB), kelompok tikus model diabetes mellitus tipe 2 yang diberi terapi PsP dosis tinggi (300mg/kgBB). Tikus dibuat diabetik dengan cara menginduksinya dengan injeksi peritoneal Streptozotocin. Parameter yang diukur adalah kadar profil lipid yang mencakup kadar kolesterol total, kadar trigliserida, kadar *high-density lipoprotein* (HDL), dan kadar *low-density lipoprotein* (LDL). Berdasarkan analisis dengan menggunakan Oneway ANOVA, pemberian terapi PsP selama 8 minggu pada dosis 300mg/kgBB dapat menurunkan kadar kolesterol total ($p = 0.010$) dan kadar trigliserida ($p = 0.001$), dan pada dosis 150mg/kgBB PsP dapat menurunkan kadar LDL ($p = 0.010$) secara signifikan pada tikus model diabetes mellitus. Namun PsP tidak dapat menaikkan kadar HDL ($p = 0.232$) secara signifikan. Berdasarkan hasil data penelitian ini, PsP dapat bermanfaat untuk menurunkan kadar kolesterol total, trigliserida, dan LDL sehingga diperlukan penelitian lebih lanjut untuk dapat menggunakan PsP sebagai obat tambahan dalam terapi diabetes mellitus tipe 2 yang disertai dislipidemia.

Kata kunci: peptida polisakarida, profil lipid, diabetes mellitus tipe 2, penyakit kardiovaskuler, *Ganoderma lucidum*.

ABSTRACT

Anjani, Prasanti Mahesa. 2014. **Effects of *Ganoderma Lucidum* Polysaccharide Peptide (PsP) on Lipid Profile in Rat (*Rattus Norvegicus*) Models of Type 2 Diabetes Mellitus**. Final Assignment, Medical Program, Medical Faculty of Brawijaya University. Supervisors: (1) Prof. Dr.dr. H.Djangan Sargowo, Sp.PD, Sp.JP (K), FIHA, FACC, FCAPC (2) Titin Andri Wihastuti, S.Kp, M.Kes

The increasing incidence of cardiovascular disease caused by atherosclerotic plaque has encouraged many scientist to develop a new treatment for this disease, including the use of *Ganoderma lucidum* polysaccharide peptide (PsP). This study is conducted to prove the effect of *Ganoderma lucidum* polysaccharide peptide (PsP) on the lipid profile in rats models of type 2 diabetes mellitus. A total of 25 heads *Rattus Novergicus* Wistar Strain were divided into five groups (n = 5 animals) : normal rats models with a normal diet (negative control), diabetic rats models (positive control), diabetic rats models treated with low-dose PsP (50mg/kgBB), diabetic rats models treated with medium-dose PsP (150mg/kgBB), diabetic rats models treated with high-dose PsP (300mg/kgBB). Rats were made diabetic by peritoneal injection of Streptozotocin. Parameters measured were the levels of lipid profile includes total cholesterol, triglycerides, high-density lipoprotein levels (HDL), and levels of low-density lipoprotein (LDL). Based on analysis using Oneway ANOVA, PsP therapy for 8 weeks on 300mg/kg body weight dose can reduce total cholesterol (p = 0.010) and triglyceride levels (p = 0.001), and on 150mg/kg body weight PsP can reduce LDL (p = 0.010) significantly in mice models of diabetes mellitus. However, the PsP can not raise HDL levels (p = 0.232) significantly. Based on the results of the research data, the PsP may be beneficial to reduce total cholesterol, triglycerides, and LDL that further research is needed to be able to use the PsP as an additional drug in the treatment of type 2 diabetes mellitus with dyslipidemia.

Keywords: polysaccharide peptide, lipid profile, type 2 diabetes mellitus, cardiovascular disease, *Ganoderma lucidum*.