

**PENGARUH PEMBERIAN JAMUR TIRAM PUTIH  
(*Pleurotus ostreatus*) TERHADAP KADAR GLUKOSA  
DARAH, PROFIL LIPID DAN KADAR MDA  
PADA TIKUS (*Rattus norvegicus*) DIABETES MELITUS**

*THE EFFECT OF OYSTER MUSHROOM (*Pleurotus ostreatus*)  
ADMINISTRATION ON BLOOD GLUCOSE LEVELS,  
LIPID PROFILE AND MDA LEVELS  
IN DIABETES MELLITUS RATS (*Rattus norvegicus*)*



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**Magister Ilmu Gizi**

**Purbowati**  
**22030112410026**

**FAKULTAS KEDOKTERAN**  
**UNIVERSITAS DIPONEGORO**  
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## ABSTRAK

### PENGARUH PEMBERIAN JAMUR TIRAM PUTIH (*Pleurotus ostreatus*) TERHADAP KADAR GLUKOSA DARAH, PROFIL LIPID DAN KADAR MDA PADA TIKUS (*Rattus norvegicus*) DIABETES MELITUS

**Latar Belakang :** Diabetes melitus (DM) merupakan penyakit kronis yang disebabkan karena pankreas tidak menghasilkan cukup insulin, atau ketika tubuh tidak dapat menggunakan insulin secara efektif. Jamur tiram putih (*Pleurotus ostreatus*) dapat membantu menurunkan kadar glukosa darah, memperbaiki profil lipid dan menurunkan kadar MDA.

**Tujuan :** menganalisis pengaruh pemberian jamur tiram putih terhadap kadar glukosa darah, profil lipid dan kadar MDA pada tikus DM.

**Metode :** tiga puluh ekor tikus *Sprague dawley* jantan dibagi dalam 3 kelompok, yaitu kontrol diabetik (1), perlakuan ekstrak jamur tiram putih 100 mg/kgBB (2), perlakuan ekstrak jamur tiram putih 200 mg/kgBB (3). Intervensi dilakukan selama 30 hari. Pemeriksaan kadar glukosa darah, profil lipid dan kadar MDA dilakukan sebelum dan sesudah intervensi. Perubahan sebelum-sesudah intervensi dianalisis dengan uji *paired t-test*, sedangkan perbedaan antara kelompok dianalisis dengan uji *one way ANOVA* dan *Kruskal wallis* yang dilanjutkan dengan analisis *post hoc*.

**Hasil :** kelompok perlakuan mengalami penurunan kadar glukosa darah, kolesterol total, kolesterol LDL, trigliserida, MDA dan peningkatan kadar kolesterol HDL pasca intervensi ( $p < 0,001$ ). Ekstrak jamur tiram dosis 200 mg/kgBB lebih efektif dalam menurunkan kadar glukosa darah, kadar MDA dan memperbaiki profil lipid ( $p < 0,001$ ).

**Kesimpulan :** Pemberian jamur tiram putih menurunkan kadar glukosa darah, kolesterol total, kolesterol LDL, trigliserida, MDA dan meningkatkan kadar kolesterol HDL.

**Kata kunci :** jamur tiram putih (*Pleurotus ostreatus*), glukosa darah, profil lipid, *malondialdehyde*, diabetes

## ABSTRACT

### THE EFFECT OF OYSTER MUSHROOM (*Pleurotus ostreatus*) ADMINISTRATION ON BLOOD GLUCOSE LEVELS, LIPID PROFILE AND MDA LEVELS IN DIABETES MELLITUS RATS (*Rattus norvegicus*)

**Background :** Diabetes mellitus is a chronic disease caused by acquired deficiency in insulin production by the pancreas, or by the ineffectiveness of using the produced insulin. Oyster mushroom (*Pleurotus ostreatus*) can help lower blood glucose levels, improve lipid profile and reduce levels of MDA.

**Objective :** to analyze the effect of oyster mushroom on blood glucose levels, lipid profile and MDA levels in DM rats.

**Methods :** thirty *Sprague Dawley* rats were randomly divided into 3 groups: diabetic control (1), the treatment of oyster mushroom extract 100 mg/kg (2), the treatment of oyster mushroom extract 200 mg/kg (3). The interventions were carried out for 30 days. The examination of blood glucose levels, lipid profile and MDA levels was before and after the intervention. The differences in the data pre-post interventions were analyzed by *paired t-test*, where as the differences between the groups were analyzed by *one-way ANOVA* and *kruskal wallis* followed by post hoc analysis.

**Results :** the treatment group experienced a decrease in blood glucose levels, total cholesterol, LDL cholesterol, triglycerides, MDA and an increase in HDL cholesterol levels post-intervention ( $p < 0,001$ ). Oyster mushroom extract with the dose of 200 mg/kg was more effective in lowering blood glucose levels, MDA levels and improving lipid profiles ( $p < 0,001$ ).

**Conclusion :** Oyster mushrooms administration lowers blood glucose levels, total cholesterol, LDL cholesterol, triglycerides, MDA and increases HDL cholesterol levels.

**Keywords :** oyster mushroom (*Pleurotus ostreatus*), blood glucose, lipid profile, *malondialdehyde*, diabetes