Antidiabetic Effects and Enzymatic Antioxidant Activity of Chicken Drumstick Mushroom *(Coprinus comatus)* Extract in Diabetic Rats Model

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Abstract	Coprinus comatus (O.F. Mull.) Pers. is a medicinal and edible mushroom containing bioactive compounds known as antidiabetic and antioxidant agents. The pancreatic beta-cells were sensitive to reactive oxygen species (ROS) attacks, which can cause necrosis and disrupt insulin production. Therefore, this research aimed to evaluate the C. comatus ethyl acetate extract for antidiabetic and antioxidant to decrease fasting blood glucose, dipeptidyl peptidase-4 enzyme (DPP-4) levels, and increase glutathione peroxidase (GPx). Subsequently, 24 male Wistar rats were divided into six groups, namely 2-5 streptozotocin (STZ)-induced 45 mg/kg, 1/HC (without any treatment), 2/NC (negative control), 3/PC (administered metformin 45 mg/kg Body weight (BW), 4-6 (T1: administered 250 mg, T2: administered 500 mg, and T3: administered 750 mg/kg BW extract). The parameters were analyzed using ANOVA, followed by Duncan's multiple range test. According to the results, the extract significantly decreased DPP-4 levels, blood glucose and increased GPx ($p <= 0.05$). The 500 mg extract effectively reduced blood glucose levels and DPP-4 enzyme as well as increased levels of GPx.
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