EFFECT OF JENGKOL (*Archidendron pauciflorum*) FRUIT PEEL EXTRACT ON MALONDIALDEHYDE CONCENTRATION IN STREPTOZOTOCIN-INDUCED DIABETIC FEMALE WISTAR RATS

Desak Made Malini¹), ²), Nining Ratningsih¹), ²), Madiah¹), ²), Dinda Hani’ah Arum Saputri¹), Wawan Hermawan¹), ²)
¹) Department of Biology, Faculty of Mathematics and Natural Sciences
e-mail address of corresponding author: desak.made@unpad.ac.id

ABSTRACT

Hyperglycemia in diabetes mellitus causes an increased formation of reactive oxygen that lead to oxidative stress. The jengkol fruit has known contain several antioxidant compounds, i.e. flavonoids, tannins, and polyphenols. This study aimed to investigate the ability of ethanol extract of jengkol fruit peel to decrease malondialdehyde (MDA) concentration in streptozotocin-induced diabetic female Wistar rats. Diabetic animals were induced by intravenous injection of streptozotocin (65 mg/kg BW). The extract was administered orally at 385, 770, and 1540 mg/kg BW (both to normal and diabetic rats) and glibenclamide 5 mg/kg BW to diabetic rats as the reference group, while the negative control group was administered the solvent for 14 days. MDA concentration from pancreas and liver tissues were measured by Thiobarbituric Acid Reactive substance (TBARs) method. The results showed that ethanol extract of jengkol fruit peel had an IC₅₀ value of 6.35 ppm which was classified as very strong antioxidant and the extract at a dose 1540 mg/kg BW was effective to decrease MDA concentration from pancreas and liver at 41.43% and 53.1%, respectively, in streptozotocin-induced diabetic rat. In conclusion, jengkol fruit peel extract has potency as a powerful antioxidant which can decrease pancreatic and liver malondialdehyde in streptozotocin-induced diabetic female Wistar rats.

Keywords: *Archidendron pauciflorum*, diabetes, malondialdehyde, female Wistar rats.