Antiglycation and antioxidant properties of Ficus deltoidea varieties

ABSTRACT

The present study aimed to evaluate the potential of standardized methanolic extracts from seven Ficus deltoidea varieties in inhibiting the formation of AGEs, protein oxidation, and their antioxidant effects. The antiglycation activity was analyzed based on the inhibition of AGEs, fructosamine, and thiol groups level followed by the inhibition of protein carbonyl formation. The antioxidant activity (DPPH radical scavenging activity and reducing power assay) and total phenolic contents were evaluated. After 28 days of induction, all varieties of Ficus deltoidea extracts significantly restrained the formation of fluorescence AGEs by 4.55–5.14 fold. The extracts also reduced the fructosamine levels by 47.0–86.5%, increased the thiol group levels by 64.3–83.7%, and inhibited the formation of protein carbonyl by 1.36–1.76 fold. DPPH radical scavenging activity showed an IC50 value of 66.81–288.04 μg/ml and reducing power activity depicted at 0.02–0.24 μg/ml. The extent of phenolic compounds present in the extracts ranged from 70.90 to 299.78 mg·GAE/g. Apart from that, correlation studies between the activities were observed. This study revealed that seven varieties of Ficus deltoidea have the potential to inhibit AGEs formation and possess antioxidant activity that might be attributed to the presence of phenolic compounds.