ANTIOXIDANT AND $\alpha$-AMYLASE INHIBITION ACTIVITY OF *RUTA CHALEPENSIS* L EXTRACTS

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**ABSTRACT**  
In the present study total phenolic compounds (TPC), Total flavonoids content (TFC), $\alpha$-amylase inhibitory activity, and antioxidant activity were measured by the DPPH test of methanol and ethyl acetate extracts of the leaves and flowers of *Ruta chalepensis* L were evaluated. The extraction yield using methanol for the flower and leaves were about 25%, while those for ethyl acetate were about 3.4%. TPC of the methanol extracts for the flowers and leaves of the Ruta was around 1150 mg GAE /100 g dried Ruta, while TPC of ethyl acetate extract of the Ruta leaves and flowers were 760 and 290 mg GAE /100 g dried Ruta. The methanolic extracts of Ruta leaves and flowers exhibited the strongest DPPH radical scavenging activity. The IC50 for both extracts were about 12 mg TPC/mL). However, the ethyl acetate extract of flowers showed the lowest DPPH radical scavenging activity (IC50 = 96.7 mg TPC/ ml) and it was significantly different than that of leaves (IC50 = 62 mg TPC/ml). The inhibitory effect of methanolic extracts of leaves on the $\alpha$-amylase was the lowest (42.2%) followed by ethyl acetate of flowers (53.9%). Whereas, the ethyl acetate extract of leaves showed the highest inhibitory effect against $\alpha$-amylase (63.7%) followed by methanolic extract of flowers (57.9%). The results obtained in this study clearly indicate that *R. chalepensis* L has a significant potential to use as a natural antioxidant as well as an antidiabetic agent.