

Determination of polyphenols and free radical scavenging activity of *Tephrosia purpurea* linn leaves (Leguminosae)

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ABSTRACT

Background Leaves of *Tephrosia purpurea* Linn. (sarpankh), belonging to the family Leguminaceae, are used for the treatment of jaundice and are also claimed to be effective in many other diseases. This research work was undertaken to investigate the in vitro antioxidant activity of aqueous and ethanolic extracts of the leaves. Method The therapeutic effects of tannins and flavonoids can be largely attributed to their antioxidant properties. So, the quantitative determinations were undertaken. All the methods are based on UV-spectrophotometric determination. Result The total phenolic content of aqueous and ethanolic extracts showed the content values of 9.44 $\pm$ 0.22% w/w and 18.44 $\pm$ 0.13% w/w, respectively, and total flavonoid estimation of aqueous and ethanolic extracts showed the content values of 0.91 $\pm$ 0.08% w/w and 1.56 $\pm$ 0.12% w/w, respectively, for quercetin and 1.85 $\pm$ 0.08% w/w and 2.54 $\pm$ 0.12% w/w, respectively, for rutin. Further investigations were carried out for in vitro antioxidant activity and radical scavenging activity by calculating its percentage inhibition by means of IC₅₀ values, all the extracts' concentrations were adjusted to fall under the linearity range and here many reference standards like tannic acid, gallic acid, quercetin, ascorbic acid were taken for the method suitability. Conclusion The results revealed that leaves of this plant have antioxidant potential. The results also show the ethanolic extract to be more potent than the aqueous decoction which is claimed traditionally. In conclusion, *T. purpurea* Linn. (Leguminosae) leaves possess the antioxidant substance which may be responsible for the treatment of jaundice and other oxidative stress-related diseases.

KEYWORDS

Ferric reducing antioxidant power . 1 . 1-diphenyl-2-picrylhydrazyl-radical scavenging assay . *Tephrosia purpurea* Linn. (Leguminosae) . total phenolic content

REFERENCES