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Antioxidant and anti-inflammatory activities of *Garcinia cambogia*, *Curcuma longa* and sesame oil used as common food commodities in Sri Lanka

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Background: *Garcinia cambogia, Curcuma longa* and sesame oil are well known food commodities and indigenous medicinal applications in Sri Lanka.
Objective: To evaluate the *in vitro* antioxidant activity of the aqueous extracts of *G. cambogia, C. longa* and sesame oil and the *in vitro* anti-inflammatory activity of the aqueous extracts of *G. cambogia* and *C. longa.*
Method: 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging assay was used to evaluate *in vitro* antioxidant activity of *G. cambogia, C. longa,* and sesame oil while the inhibition of albumin denaturation and the Heat Induced Human Red Blood Cell (HRBC) membrane stabilization assay were used to evaluate *in vitro* anti-inflammatory activity of *G. cambogia and C. longa*. *In vitro* anti-inflammatory activity of sesame oil was not evaluated. IC_{50} values were calculated using the linear regression analysis.
Results: Antioxidant activity of the aqueous extracts and sesame oil were observed. The IC_{50} values of the aqueous extracts of *G. cambogia* and *C. longa* were reported as 5.25 mg/ml and 7.08 mg/ml, respectively. Sesame oil also showed the maximum antioxidant activity at the concentration of 75 µl/ml. Ascorbic acid was used as the standard with the IC_{50} of 0.05 mg/ml. Likewise, anti-inflammatory activity of aqueous extracts of *G. cambogia* and *C. longa* were observed against the inhibition of albumin denaturation assay with the IC_{50} of 0.36 mg/ml and 0.40 mg/ml, respectively. Here, ketoprofen was used as the standard with the IC_{50} of 0.42 mg/ml. The anti-inflammatory activity of the aqueous extracts for membrane stabilization assay, were negative.
Conclusion: The aqueous extracts of *G. cambogia, C. longa* and sesame oil possessed the antioxidant activity against DPPH free radical scavenging assay. Likewise, the aqueous extracts of *G. cambogia* and *C. longa* possessed the anti-inflammatory activity against the inhibition of albumin denaturation assay.