

Screening of pure and crude extracts of some medicinal plants for antioxidant activities

P. Vasanthakumar, B. Pangayarselvi, P. Sasikumar, D. Chandrasekaran and R. Kavitha

Department of Animal Nutrition, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, India

Free radicals are implicated for more than 80 human diseases including diabetes mellitus, atherosclerosis, cataract, rheumatism etc. Antioxidant therapy has gained importance in treatment of these diseases. The aim of this research was to investigate the in vitro antioxidant activities of crude and purified commercial extracts of some herbal plants namely, *Ocimum sanctum* (Tulsi), *Murraya Koenigii* (Curry leaf), *Curcuma longa* (Turmeric), *Withania Somnifera* (Ashwagandha) and *Allium Sativum* (Garlic). The total phenolic content, antioxidant potential by DPPH assay, total reducing power and total antioxidant activities were determined. The total phenolic content (GAE/g) of pure extracts of turmeric, tulsi, curry leaf, ashwagandha and garlic were found to be 610.4, 185.4, 122.0, 108.6, 75.0 and the values for crude extracts of turmeric, curry leaf, ashwagandha & garlic were 7.02, 5.70, 1.84 & 0.89. Concentration of plant extracts (μg) required for 50% inhibition of DPPH radical scavenging effect (IC_{50}) were recorded as 16.42, 46.27, 186.91, 223.61, 1610, 604.44, 415.76, 8060 & 3600 for pure extracts of turmeric, tulsi, curry leaf, ashwagandha & garlic and crude extracts of turmeric, curry leaf, ashwagandha & garlic, respectively. Total antioxidant activity (%) was found to be high in pure extracts of turmeric (85.29) & tulsi (21.79) when compared to garlic (8.36), ashwagandha (7.67) & curry leaf (6.0). In crude extracts, turmeric (3.10) & garlic (3.15) were better as compared to curry leaf (2.99) & ashwagandha (0.75). In this study, screening of herbs based on in-vitro methods revealed that *Curcuma longa* (Turmeric) and *Ocimum Sanctum* (Tulsi) were having better antioxidant activities.

Biography

P. Vasanthakumar, M.V.Sc. Ph.D., Associate Professor working in Tamil Nadu Veterinary and Animal Sciences University, India has completed Ph.D. during the year 2002. He is involved in teaching, research and extension activities related to Animal Nutrition for the last 16 years. He has published more than 20 papers in reputed journals / proceedings and has guided two master degree students. He has completed four external funded research projects and currently involved in five research schemes.

p.vasanthakumar@tanuvas.org.in