Fuh-Juin Kao, Medicinal & Aromatic Plants, Volume 7
DOI: 10.4172/2167-0412-C1-018

Effect of extracting solvents on antioxidant activities from fruit of *Phyllanthus emblica* Linn.

Fuh-Juin Kao
Ming Chuan University, Taiwan

Phyllanthus emblica, a Euphorbiaceous *Phyllanthus* plant is widely distributed in China, India, Indonesia and Malay Peninsula and used in many traditional medicinal systems such as Chinese herbal medicine, Tibetan medicine and ayurvedic medicine. The fruit of *P. emblica* is reported to have hypolipidemic and hypoglycemic activities and acts as an important constituent of many hepatoprotective formulas. It is also used as an antimicrobial agent, antitumor or an anti-inflammatory agent and can improve the metal-induced clastogenic effects. In fact, emblica fruit is rich in polyphenols as well as hydrolysable tannin and its extractions have shown strong anti-oxidative and radical scavenging activity. This study was aimed at determining the amount of the Total Phenolic Contents (TPC), Total Flavonoid Content (TFC), hydrolysable tannin content and to evaluate the antioxidant activities of extracts with different extracting solvent (50% methanol, 50% ethanol, 95% methanol, 95% ethanol, ethyl acetate and boiling water). Antioxidant activities of the P. emblica extracts were evaluated by several methods, including DPPH, ABTS+ and NO radical scavenging assays and inhibition of lipid peroxidation assay. Highest TPC were obtained with 95% methanol or 95% ethanol extracts while highest TFC and hydrolysable tannin content were with 50% methanol, 50% ethanol extracts. The 50% methanol and 50% ethanol extracts exhibited the lowest IC_{50} values for DPPH, TEAC and inhibition of lipid peroxidation assays. However, 95% methanol extract with the lowest IC_{50} value for NO radical scavenging assay. The difference in TPC, TFC, hydrolysable tannin content and antioxidant activities was due to the nature of the active compounds extracted by each solvent. The results of this preliminary study proved the influence of the nature of the solvent in active compounds extractions. Further studies should be made to identify the main active components in each extract.

Biography

Fuh-Juin Kao is working as an Associate Professor at Ming Chuan University, Taiwan. Her research efforts have been focused on nutraceuticals and functional foods in health promotion and disease risk reduction. Her primary research in this area has focused on nutraceuticals in plants grown in Taiwan. In addition, the application of these nutraceuticals or medicinal plants into real foods is also his most interesting works.

fjkao@mail.mcu.edu.tw

Notes: