

## Phytochemical, antioxidant and antibacterial activities of medicinal plants used in Northern Thailand as postpartum herbal bath recipes by the Mien (Yao) community

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Received: 4 November 2011, Revised: 11 November 2011 Accepted: 12 November 2011

### Abstract

The Mien (Yao) community in northern Thailand uses selected medicinal plants as traditional recipes for postpartum bath to avoid puerperal sepsis and related conditions. Current study was designed to investigate pharmacological studies to validate folk use of such herbal recipes in northern Thailand. Phytochemical tests revealed the presence of phenolic compounds, flavonoids, triperpene and lactone glycosides. All plants were then tested for DPPH, FRAP, and total phenolic content. It was found that *Phlogacanthus curviflorus* (Wall.) Nees var. *curviflorus* (Hung Teaw Yam) has the highest DPPH anti-oxidant activity ( $EC_{50} = 0.219$  mcg), its FRAP value, expressed as  $FeSO_4$  equivalents (mg/g extract), is  $949.143 \pm 0.074$  and its total phenolic content, expressed as gallic acid equivalents (mg/g extract), equals  $17,368.421 \pm 0.009$ . Results of the antimicrobial showed *Schefflera* sp. cf. *S. bengalensis* Gamb. and *Plumbago indica* L. to be the most active plants against *Staphylococcus aureus* with MIC and MBC of 0.726; 1.453 mg/ml and 0.782; 0.782 mg/ml, respectively. TLC finger print of *P. indica* L. showed the band having  $R_f = 2.3$  was equivalent to morin with antibacterial property against *S. aureus*. Present investigation showed significant therapeutic effect of folk medicinal recipes used as traditional postpartum herbal bath by the Mien community in northern Thailand.

**Keywords:** Mien (Yao), Thailand, Postpartum herbal bath

### Introduction

Since people have the advantage of medical technology, they live longer and are faced with diseases that come along with age and illnesses such as cancer and diabetes mellitus. Diseases caused by stress and the pollution of an industrial lifestyle, which may not be cured by modern medicine, force many people to seek out complementary and alternative