

# Postpartum phytomedicine and its future in maternal healthcare in Prey Lang, Cambodia

Victoria H. GRAPE<sup>1,\*</sup>, Nerea TURREIRA-GARCIA<sup>1</sup>, Lars HOLGER-SCHMIDT<sup>1</sup>, CHHANG Phourin<sup>2</sup> & Prachaya SRISANGA<sup>3</sup>

<sup>1</sup> Department of Food and Resource Economics, University of Copenhagen, Rolighedsvej 25, 1958 Frederiksberg C, Denmark.

<sup>2</sup> Forest and Wildlife Research Institute, Forestry Administration, Hanoi Street 1019, Phum Rongchak, Sankat Phnom Penh Thmei, Khan Sen Sok, Phnom Penh, Cambodia.

<sup>3</sup> Queen Sirikit Botanic Garden, Herbarium, Chiang Mai, 50180, Thailand.

\* Corresponding author. Email grapevictoria@gmail.com

*Paper submitted 1 October 2016, revised manuscript accepted 21 November 2016.*

## មូលនិយមសង្ខេប

ប្រទេសកម្ពុជាបានកាត់បន្ថយនូវអត្រាស្លាប់របស់ម្តាយតាមរយៈការធ្វើទំនើបកម្មមណ្ឌលសុខភាព មន្ទីរពេទ្យបង្អែកនៅតាមខេត្ត និង ការហាមឃាត់ការនាំគ្នារបស់ឆ្មបបុរាណ(TBA)។ ការហាមឃាត់នេះដោយសារតែគេពុំដែលបានស្គាល់នូវវប្បធម៌ និង ចំណេះដឹងក្នុងការប្រើប្រាស់រុក្ខជាតិរបស់ប្រជាជនក្នុងតំបន់នោះ។ ដោយសារតែការស្លាប់របស់ម្តាយក្រោយឆ្លងទន្លេរួចគឺជាបញ្ហាមួយធ្ងន់ធ្ងរខ្លាំងនៅកម្ពុជា ដូច្នេះការសិក្សានេះមានគោលបំណងចងក្រងឯកសារទាក់ទងនឹងចំណេះដឹង អំពីការប្រើប្រាស់រុក្ខជាតិបែបបុរាណសម្រាប់ការការពារ និង ព្យាបាលស្ត្រីក្រោយឆ្លងទន្លេរួច។ រុក្ខជាតិចំនួន៦៨ប្រភេទ ស្មើនឹង៣៣អំបូរ ត្រូវបានគេកត់ត្រា ក្នុងនោះមាន៖ អំបូរឈូក Rubiaceae(១០ប្រភេទ), អំបូរទេពទារូ Lauraceae(៥ប្រភេទ), អំបូរសណ្តែក Leguminosae(៥ប្រភេទ) និង អំបូរប័ប្រើស Smilacaceae(៣ប្រភេទ)។ ការប្រើប្រាស់ច្រើនបំផុតគឺទៅលើការធ្វើអោយហូបបាយបាន(៣៥%), សម្រួលសរសៃឈាម (២៥.៧%) និង សម្បូរទឹកដោះ(២២.៨%)។ ស្ត្រីជាមួយមកពីភូមិចំនួនពីរនៅភាគខាងជើងព្រៃឡង់បានស្គាល់រុក្ខជាតិ សម្រាប់ស្ត្រីឆ្លងទន្លេរួចពី៥០-៦០%ដែលប្រមូលដោយឆ្មបបុរាណនិងមិនមានភាពទាក់ទងគ្នាគួរអោយកត់សម្គាល់រវាងប្រភេទរុក្ខជាតិដែលប្រើប្រាស់ទៅនឹងអាយុរបស់ម្តាយប្រជាមួយនឹងចំនួននៃការពរពោះនោះទេ។ តាមរយៈការអង្កេតនៅក្នុងភូមិពីរគឺភូមិចំរើន និង ភូមិស្តង់បានបង្ហាញថាមានការផ្លាស់ប្តូរពីការឆ្លងទន្លេនៅផ្ទះដោយឆ្មបបុរាណទៅឆ្លងទន្លេនៅមន្ទីរពេទ្យ។ មានភាពស្រដៀងគ្នា និង ខុសគ្នាមួយចំនួនទៅលើប្រភេទរុក្ខជាតិ និង វិធីប្រើប្រាស់សម្រាប់ស្ត្រីក្រោយឆ្លងទន្លេរួចនៅកម្ពុជា ធៀបទៅនឹងប្រទេសជិតខាងដូចជា ប្រទេសឡាវនិងប្រទេសថៃ។ យើងសូមស្នើអោយមានការបញ្ជូលនូវការប្រើប្រាស់ឱសថបុរាណដែលបានឆ្លងកាត់ទំនើបកម្មសម្រាប់ស្ត្រីក្រោយឆ្លងទន្លេរួចទៅក្នុងសេវាកម្មមាតុភាពដែលចាំបាច់ ព្រោះវាមិនត្រឹមតែរួមចំណែកក្នុងការការពារបេតិកភ័ណ្ឌជីវវប្បធម៌បុណ្ណោះទេ តែវាក៏ជាសក្តានុពលនៃការស្រាវជ្រាវផ្នែកឱសថផងដែរ។

## Abstract

Cambodia has reduced maternal mortality rates by modernizing provincial health centres and referral hospitals as well as by banning traditional birthing attendants (TBAs) from practicing. The implications this will have on ethnobotanical knowledge and the local culture are unknown. Because postpartum mortality is a dire reality in Cambodia, this study aimed to document knowledge on traditional phytomedicine for the prevention and treatment of postpartum compli-

CITATION: Grape, V.H., Turreira-Garcia, N., Holger-Schmidt, L., Chhang P. & Srisanga, P. (2016) Postpartum phytomedicine and its future in maternal healthcare in Prey Lang, Cambodia. *Cambodian Journal of Natural History*, 2016, 119–133.

cations. Sixty-eight plant species belonging to 33 families were recorded, the most prevalent being Rubiaceae ( $n=10$ ), Lauraceae ( $n=4$ ), Leguminosae ( $n=4$ ) and Smilacaceae ( $n=3$ ). The most common uses were appetite stimulation (34.2%), improving blood circulation (25.7%) and stimulating milk production (22.8%). Mothers from two villages in northern Prey Lang, Cambodia, recognized 50–60% of postpartum plants collected by TBAs and there was no significant correlation between plant recognition and the mother's age, nor with the number of pregnancies had. A shift from home births with TBAs towards hospital births in the villages of Chamraeun and Spong was observed. There are similarities and differences in the diversity of Cambodian postpartum plants and their uses compared to neighbouring Laos and Thailand. We suggest an integrative approach to maternity services is needed in which traditional medicine supplements modern postpartum healthcare, while preserving bio-cultural heritage and potential pharmacological discoveries.

## Keywords

Ethnobotany, indigenous, Kuy, Kui, Kuoy, local ecological knowledge, midwifery, traditional ecological knowledge.

## Introduction

Indigenous communities' knowledge and use of medicinal plants is increasingly vulnerable in developing nations, its threat having both cultural and pharmacological repercussions (Bodeker & Kronenberg, 2002; Shanley & Lutz, 2003; Bolson *et al.*, 2015). Factors including deforestation, rural exodus, and modernisation of health services could potentially influence the way developing societies relate to and use their surrounding environments. Estimates from 2005 reveal that 70–95% of people living in Asia, Latin America, and the Middle East use traditional medicine as their main form of health care (Rocha *et al.*, 2016).

High maternal mortality is of major health concern in most developing countries. In 2010, an estimated 287,000 deaths worldwide were due to avoidable maternal complications, and most occurred in countries with living standards at or below middle-class, making it vital to focus attention on prevention and treatment of ailments related to pregnancy in these areas (Say *et al.*, 2014). Estimates also suggest that half of maternal deaths occur during the postpartum period, the time immediately following birth and extending up to six weeks afterwards, when a mother's body returns to its non-pregnant state. Similar trends have been observed in Cambodia, where high fertility and high maternal mortality indicates that motherhood encompasses risks and challenges across the nation. The World Health Organization (WHO, 2013) estimated a maternal mortality rate (MMR) of 170 deaths per 100,000 births in Cambodia, a 15% decrease since 2009. While a promising reduction in a short time period, this remains far higher than MMRs in developing countries which average 12 deaths per 100,000 births (WHO, 2014). In Cambodia, fertility is currently observed at 3.3 children per woman in rural areas compared to 2.2 in urban areas and this contributes to a higher risk of maternal mortality in the countryside (Kalaichandran & Zakus, 2007; Liljestrand & Sambath, 2012).

The unregulated nature and varying quality of traditional birthing practices in Cambodia led to a ban on traditional birthing attendants (TBAs) in 2006 and setting of national standards for obligatory midwife certification programs (Ith *et al.*, 2012; Wang & Hong, 2015). This effectively increased facility deliveries by trained personnel by 78.6% from 2006 to 2011, whereas births by TBAs decreased by 81.5%, contributing to the reduction in MMR nationally (Ir *et al.*, 2015). What has been ignored under this development, however, is how healthcare modernisation may influence future traditional knowledge on medicinal plants when TBAs abandon their practices or when mothers lose interest and trust in their use. Though the efficacy and safety of traditional medicine poses a concern, the cultural value of traditional medicine and its potential to supplement modern practices remains relevant in developing countries such as Cambodia. The risk that valuable information about traditional medicinal plants may vanish is pertinent because many people live far from modern facilities and are often dependent upon traditional medicine (Bodeker & Kronenberg, 2002; Lundh, 2007; Ansari & Inamdar, 2010; Bolson *et al.*, 2015). Integration of traditional medicinal practices in modern times has been documented in Ghana, Nicaragua, and China, and these studies provide insights on how the same could be achieved in Cambodia (Carrie *et al.*, 2015; Chan *et al.*, 2015; Boateng *et al.*, 2016).

Cultural beliefs regarding health often guide indigenous peoples in their choices of plants to prevent and heal ailments. In many cultures around the world, notably in Central America and Asia, there reigns a theory of hot and cold internal balance in the body. Traditional healers prescribe plant medicines according to their balancing effect upon the body's thermal state (Fishman *et al.*, 1988; Nestler, 2002; de la Cruz *et al.*, 2014; García-Hernández, 2015; Teixidor-Toneu *et al.*, 2016). This practice is also prevalent amongst the Khmer and Kuy ethnic groups in Cambodia, who deem preg-