Medicinal herbs: Traditional knowledge used for constipation therapy in metropolitan Bangkok

Prayosh Suntonvipart1*, Songkoon Chantachon1 & Marisa Koseyayothon2

1The Faculty of Cultural Science, Mahasarakham University, Khamriang Sub-District, Kantarawichai District, Maha Sarakham Province 44150, Thailand; 2Kanchanapisek Non-Formal Education Centre (Royal Academy), Salaya Sub-District, Bhattamonthon District, Nakhon Pathom Province 73170, Thailand
E-mail: psuntonvipart143@gmail.com

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This qualitative research examines constipation therapy with herbal remedies in metropolitan Bangkok. Observation, personal communication and focus group discussion techniques are used to assess traditional medicinal knowledge used in the treatment of constipation and the innovation of Thai herbal remedies. The results show that herbal remedies chosen by doctors have limitations caused by complicated formulation processes and inconvenience for use by patient in modern society. The researcher team developed a new herbal remedy named Phothiphawadi, which was then formulated into capsule dosage form and dispensed to patients with constipation. Patients were able to carry and use Phothiphawadi capsules more easily. After taking this product together with lifestyle changes, all patients recovered from constipation. The Phothiphawadi capsule was an effective treatment with few side effects and a low price.

Keywords: Thai traditional medicine, Traditional knowledge, Constipation, Medicinal herbs, Herbal remedies

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The study of healthcare is both a science and an art. Local Thai knowledge has been combined with knowledge from neighbouring civilizations. This mixture has developed and been inherited as a medical system today, which is both recorded as evidence and relayed as beliefs in various ethnic groups. The medical system is currently known as Thai traditional medicine or Thai folk medicine1. The tenth Thai national economic and social development plan (2007-2011) aimed to improve the quality of all Thai people by developing their physical, mental and occupational skills, knowledge and ability. The aim of the policy was to start by strengthening the health of Thai people with appropriate environmental and dietary changes. These were integrated into the Thai health system, which discouraged behaviour associated with health risks. Thai traditional and alternative medical research and development was also improved to enhance quality of life and economic value2. In addition, the eleventh national economic and social development plan (2012-2016) also regulated health, targeting the development of traditional Thai medicine by supporting use of medicinal herbs in the health system.

In the face of global economic and social changes and an increasing desire to cure diseases naturally, the Thai government supports and develops Thai traditional medicine to make sure that various conditions can be treated by traditional Thai medicine. One such affliction is constipation, which occurs in country and city dwellers alike. Constipation is caused by a number of daily activities. Given the hectic lifestyle of the modern family, many workers suffer from constipation due to disruption of their regular diet or routine and stress and anxiety from everyday problems. Constipation is usually easy to prevent with simply behaviour modifications and environmental adjustments3. Nowadays, people in modern society, both in Thailand and abroad, place similar emphasis on alternative chemical-free medicine for their healthcare. Constipation medication in modern society is mostly laxative-based, which could cause side-effects and intoxication. Although herbal remedies for constipation treatment are effective, they have unstable active substances and are difficult to use and

*Corresponding author
carry. The challenge is to integrate medical knowledge and develop new treatments appropriate for modern society, while continuing to focus on principles of cultural heritage in healthcare. The research team were thus interested in studying traditional knowledge used in metropolitan Bangkok to review existing treatments and develop an effective new Thai herbal remedy for patients with constipation.

**Methodology**

This research has three primary objectives: to study existing constipation therapy with herbal remedies, to develop a convenient and portable herbal remedy for constipation therapy and to study the effect of constipation treatment using the developed herbal remedy. For this qualitative research, the researchers used four criteria to identify the research area: there was a traditional Thai medicine clinic; there were traditional Thai medicinal practitioners; patients with constipation in the area preferred traditional medicinal treatments; there was a network for treatment information and consultation. The research area was composed of:

1. *Khoom-Nukul* traditional Thai medicine clinic, Phra Samut Chedi district, Samut Prakan province.
2. *Chetuphon* traditional Thai medicine clinic, Phra Nakhon district, Bangkok.
3. *Sukhothai Thammathirat* traditional Thai medicine clinic, Pak Kred district, Nonthaburi province.

The research sample was selected using a purposive sampling technique. 121 randomized samples were identified and divided into three groups. The first group of 30 key informants was composed of traditional Thai doctors who were experts in the symptoms of constipation and had at least 10 yrs experience. The second group of 30 casual informants was composed of traditional Thai doctors who treated patients with constipation. The final group of 61 general informants was composed of patients with constipation, relatives and people in the community. Data was collected by in-depth personal communication. The research team created personal communication questions based on the study aims and research framework which prevented the interviewer from offering personal suggestions or emotional opinions. The guidelines for the interviews are detailed in the appendix to this paper (Appendix).

The research team also used participation observation and six focus group discussions, involving 6-10 people. After all data had been collected, it was validated using triangulation and research data was presented as a descriptive analysis. The study was conducted from September 1, 2012 to May 31, 2013.

**Results**

Constipation is usually caused by a disorder of bowel function due to human behaviour such as a hectic lifestyle, unhygienic diet, stress or lack of exercise. In some cases, constipation can be caused by structural problems. Yupin Sae-Ung (personal communication, 2013), a patient from *Khoom-Nukul* Thai traditional medicine clinic said she has to leave her home at Phra Samut district, Samut Prakan province at 6.30 a.m. every morning and take two buses to her office in Yanava district, Bangkok. She must arrive before 8.30 a.m. so has to control her bodily functions so that they do not delay her journey. This has made her constipated for 2 yrs. Maneerat Chanmee (personal communication, 2013), a patient from *Sukhothai Thammathirat* traditional Thai medicine clinic, Pak Kred district, Nonthaburi province explained that she has to work at the office from 8.30 to 16.30 and gets paid for three hours of overtime work. She has many responsibilities to finish and feels stressed and worried that she cannot complete her jobs in time. This has made her constipated for over two years. Two doctors, Dr. Pongporn Surathip (personal communication, 2013) and Dr. Wanpapat Dinteb (personal communication, 2013), were asked for their assessment of constipation from a traditional perspective. According to traditional Thai medicinal principles of disease development, the doctors explained that constipation is caused by a disorder of the element of wind, called *Vayo Dhatu*. This wind, which normally moves upward (causing blushing, coughing and sneezing) or downward (causing bowel movements and flatulence), gets stuck in the upper abdomen. This causes symptoms of dyspepsia, abdominal disorder and later becomes constipation. There are three traditional herbal remedies to treat the condition: 1) *Thorani-Santhakat*; 2) *Uddhangamavata* formula number one; 3) *Ya-Tai*. The use of these herbal remedies among key informants were analysed during focus group discussions and it was found that all three had been used to relieve symptoms of constipation and gastro-intestinal diseases. They are part of an ancient healthcare culture in Thailand based on two ancient scriptures, *Dhatu Bunjob* and *Uthorn-Rok*.
During focus group discussions, key informants from three traditional Thai medicine clinics agreed to formulate a new herbal remedy named Phothiphawadi. There were nine herbal ingredients for the remedy, described in table 1 (Table 1). The ingredients were crushed in equal parts and combined in 250mg capsules. Dr. Arun Techametheekul (personal communication, 2013) suggested that capsule medicine (Fig. 1) is currently popular because of more convenient portability and longer stability. The research team manufactured this herbal remedy in seven stages (Fig. 2): herb preparation, drying, chopping, powdering, sieving, capsule-filling (250 mg) and packaging in plastic bottles or blisters (Figs. 3-4). For a successful course of treatment, two Phothiphawadi capsules must be taken at bedtime for five days.

The capsule was tested on 45 patients with constipation from 20 - 60 yrs old (Table 2). All 45 patients experienced symptoms of constipation for at least one year. These symptoms included: fewer than 3 instances of defecation per week; hard stools or stools made up of small, hard pellets; more frequent and longer instances of straining during defecation; a feeling of incomplete evacuation of faecal matter. After the patients had taken two Phothiphawadi capsules for five days and had made life changes for one month, results show that the number of defecations per week increased, stools became longer, smoother and softer, defecation became easier and a larger quantity of faecal matter was evacuated, making the patient feel complete in their evacuation (Table 3). In addition, the research team found that there were no side effects in any of the 45 patients, both during and after taking the Phothiphawadi capsule. The Phothiphawadi capsule trial was successful.

**Discussion**

Illness makes people lose both physical properties and social functions, thus patients try to recover as fast as they can. Commonly, household constipation therapy consists of a single medicinal vegetable around the home, such as tamarind, lemon basil seeds soaked in water or ripe papaya. However, there are some limitations, such as temporary effect and mild treatment. The patients eventually have to ask traditional Thai doctors to formulate and dispense herbal remedies that are more effective than a single herb. It is the responsibility of traditional Thai doctors to provide the best treatment and the duty of the patient to follow their prescription. This relationship between the traditional doctor and their patient is a representation of the structural functional theory. People in society have to cooperate within community or family structures, with lifestyles reliant on social norms and regulations. If any act or behaviour is different from that norm, the culprit may be punished or ignored by society.

Herbal remedies for constipation therapy in the three traditional medicine clinics commonly consist of active ingredients with strong laxative effects that have to be desiccated or reduced prior to formulation. This means a higher risk of drug side effects, a more complicated process, higher cost and longer time of drug preparation. These remedies are usually boiled as a drink for 5-10 minutes, which is inconvenient for patients in a rush-hour society. The Phothiphawadi capsule solves this problem because all active ingredients are easy to prepare and formulate, there

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**Table 1—Phothiphawadi herbal remedy ingredients**

<table>
<thead>
<tr>
<th>No.</th>
<th>Common name</th>
<th>Scientific name</th>
<th>Selected Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rhubarb, Chinese rhubarb</td>
<td><em>Rheum palmatum</em> L.</td>
<td>Anti-inflammatory, antibacterial, laxative</td>
</tr>
<tr>
<td>2</td>
<td>Blonde syllium seed, Indian plantago seed</td>
<td><em>Plantago ovata</em> Forssk.</td>
<td>Dietary fibre not absorbed by small intestine</td>
</tr>
<tr>
<td>3</td>
<td>Emblic mirobalan, Indian gooseberry</td>
<td><em>Phyllanthus emblica</em> L.</td>
<td>Digestive</td>
</tr>
<tr>
<td>4</td>
<td>Beleric myrobalan</td>
<td><em>Terminalia bellirica</em> (Gaertn.) Roxb.</td>
<td>Reduces cholesterol, digestive</td>
</tr>
<tr>
<td>5</td>
<td>Indian senna</td>
<td><em>Senna alexandrina</em> Mill.</td>
<td>Laxative</td>
</tr>
<tr>
<td>6</td>
<td>Mock willow, Black chuglam, Citrine myrobalan</td>
<td><em>Terminalia citrina</em> (Gaertn.) Roxb. ex Fleming</td>
<td>Digestive</td>
</tr>
<tr>
<td>7</td>
<td>Yellow myrobalan, Chebulic myrobalan</td>
<td><em>Terminalia chebula</em> Retz.</td>
<td>Laxative (unripe)</td>
</tr>
<tr>
<td>8</td>
<td>White marudah</td>
<td><em>Terminalia arjuna</em> (Roxb. ex DC.) Wight &amp; Arn.</td>
<td>Analgesic, anti-inflammatory</td>
</tr>
<tr>
<td>9</td>
<td>Cinnamon tree, Ceylon cinnamon</td>
<td><em>Cinnamomum verum</em> J. Presl</td>
<td>Anti-flatulent</td>
</tr>
</tbody>
</table>
are less ingredients and each ingredient is easily replaced by others with similar properties. *Phothiphawadi* capsules are portable, with plastic bottle and blister containers, and are easily taken without an adverse taste or smell. In a study of *Chromolaena odorata* (L.) R. M. King & H. Rob. Haemostatic topical gel development, Nattaya Silawan and her team found that this topical gel satisfied patients and staff due to the potency of the haemostatic effect, ease of formulation and use, lower cost and reduced side effects\(^6\).

To sustain recovery from illness by traditional Thai therapy, patients need to modify their lifestyles. According to a study monitoring gastro-intestinal disease treatment of traditional clinics in public health centres, Nittaya Namwiset found that patients were cured by a combination of herbal remedies and strict lifestyle changes\(^7\). This also corresponds to Chokechai Saesawang, who studied the effect of *Ridsiduang Mahakan* herbal remedies in traditional Thai medicine. Saesawang found that life modification is an important factor in curing patients with haemorrhoids who take *Ridsiduang Mahakan* herbal remedies\(^8\).
Table 3—Comparison of defecation behavior among patients with constipation

<table>
<thead>
<tr>
<th>Information</th>
<th>Pre-intervention</th>
<th>Postintervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of defecations per week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 3 times</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>More than 3 times</td>
<td>-</td>
<td>45</td>
</tr>
<tr>
<td>Stool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard pellets</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>Hard and short</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Hard sausage-like</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sausage-like</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Soft sausage-like</td>
<td>-</td>
<td>35</td>
</tr>
<tr>
<td>Soft blobs with clear-cut edges</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Fluffy pieces with ragged edges</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Watery, no solid piece</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Straining defecation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More straining time</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>Normal straining time</td>
<td>-</td>
<td>45</td>
</tr>
<tr>
<td>Sense of defecation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling of anorectal obstruction</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Incomplete evacuation</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>Normal evacuation</td>
<td>-</td>
<td>45</td>
</tr>
<tr>
<td>Require manual manoeuvres to facilitate defecation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>45</td>
</tr>
</tbody>
</table>

Further research must be focused on the integration between Thai traditional medicine and modern medical knowledge in other disease therapies with traditional herbal remedies. There must be further clinical trials about the effectiveness of herbal remedies and other medicinal herbs. While the herbal remedy created as a conclusion to this research can treat symptoms of constipation effectively at a low cost, it is necessary for the ministry of public health to recommend the results of this cultural research to other healthcare personnel to expand treatment and disseminate the results in other publication media. This would advertise the potential of traditional Thai medicinal knowledge and convince more people to turn back to traditional Thai medicinal services.

**Conclusion**

*Phothiphawadi* was developed as a herbal remedy to treat constipation by using traditional Thai medicinal knowledge. The new dosage form is easier and more convenient to carry that existing treatments and is recommended for patients with constipation. *Phothiphawadi* is another alternative for people interested in turning to traditional Thai medicine.

**References**

### Appendix

**Personal communication question guidelines**

<table>
<thead>
<tr>
<th>Group of respondents</th>
<th>Topics</th>
</tr>
</thead>
</table>
| **Entrepreneurs in traditional medicine clinics** | • Purpose of Thai traditional medicine business management  
• Concept of Thai traditional medicine transaction management  
• The way to motivate people to turn back to traditional medicinal services  
• Network establishing and synchronizing traditional Thai medicine  
• Guideline of traditional Thai medicine clinic management in line with the Act of Practitioners  
• Visions of traditional medicine development to be accepted from Thai and international societies  
• Opinion about green industry  
• Problems, threats and suggestions  
• Opinion about Phothiphawadi herbal remedy  
• The way to motivate people to turn back to traditional medicinal services  
• Network establishing and synchronizing traditional medicine  
• Guidelines of traditional medicine clinic management in line with the Act of Practitioners |
| **Practitioners in traditional medicine clinics** | • Achievement factors in traditional medicine operation  
• Opinions about traditional medicine in constipation therapy  
• Opinions about herbal remedies and formulations  
• Opinions about the innovation of Thai herbal remedies with easier use  
• Opinions about world safe and portable packaging  
• Problems, threats and suggestions  
• Teacher mantle and responsibility to provide knowledge of traditional Thai medicine  
• Concept to perform as a teacher and traditional practitioner  
• Opinions about the traditional Thai medicinal theory of the human body and causes of diseases  
• Knowledge and opinions about constipation therapy  
• Number of herbal remedies used by patients with constipation  
• Active ingredients and their properties  
• Opinions about using herbal remedies instead of modern medicine  
• Opinions about Thai herbal remedies and formulations  
• Opinions about the innovation of Thai herbal remedies with easier use  
• Opinions about world safe and portable packaging  
• Problems, threats and suggestions  
• Personal information  
• General information  
• Occupation and revenue  
• Family history  
• Details on the residential community  
• Community background  
• Lifestyle  
• Belief, tradition, ceremonies, prohibition  
• Community geography  
• Geographical location  
• Transportation  
• Population  
• Traditional Thai medicine and its use  
• Concept of knowledge development  
• Treatment practice experience  
• Opinions about the innovation of portable Thai herbal remedies with easier use  
• Treatment result in general diseases, also constipation  
• Processes of diagnosis, drug preparation, dispensing, monitoring and counseling  
• Constipation therapy experience  
• Refunds  
• Problems, threats and suggestions  
• Personal information |
| **Traditional medicine teachers** | • Opinions about the traditional Thai medicinal theory of the human body and causes of diseases  
• Knowledge and opinions about constipation therapy  
• Number of herbal remedies used by patients with constipation  
• Active ingredients and their properties  
• Opinions about using herbal remedies instead of modern medicine  
• Opinions about Thai herbal remedies and formulations  
• Opinions about the innovation of Thai herbal remedies with easier use  
• Opinions about world safe and portable packaging  
• Problems, threats and suggestions  
• Personal information  
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• Processes of diagnosis, drug preparation, dispensing, monitoring and counseling  
• Constipation therapy experience  
• Refunds  
• Problems, threats and suggestions  
• Personal information |
| **Traditional medicine doctors in clinic** | • Opinions about the traditional Thai medicinal theory of the human body and causes of diseases  
• Knowledge and opinions about constipation therapy  
• Number of herbal remedies used by patients with constipation  
• Active ingredients and their properties  
• Opinions about using herbal remedies instead of modern medicine  
• Opinions about Thai herbal remedies and formulations  
• Opinions about the innovation of Thai herbal remedies with easier use  
• Opinions about world safe and portable packaging  
• Problems, threats and suggestions  
• Personal information  
• General information  
• Occupation and revenue  
• Family history  
• Details on the residential community  
• Community background  
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• Belief, tradition, ceremonies, prohibition  
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• Geographical location  
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• Population  
• Traditional Thai medicine and its use  
• Concept of knowledge development  
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• Opinions about the innovation of portable Thai herbal remedies with easier use  
• Treatment result in general diseases, also constipation  
• Processes of diagnosis, drug preparation, dispensing, monitoring and counseling  
• Constipation therapy experience  
• Refunds  
• Problems, threats and suggestions  
• Personal information |
| **Patients and customers** | • Opinions about the traditional Thai medicinal theory of the human body and causes of diseases  
• Knowledge and opinions about constipation therapy  
• Number of herbal remedies used by patients with constipation  
• Active ingredients and their properties  
• Opinions about using herbal remedies instead of modern medicine  
• Opinions about Thai herbal remedies and formulations  
• Opinions about the innovation of Thai herbal remedies with easier use  
• Opinions about world safe and portable packaging  
• Problems, threats and suggestions  
• Personal information |
- Opinions about Thai traditional medicine and alternative medicine service for health care
- Information of defecation behavior
  - How suffering
  - Impact on occupation
  - Impact on life
  - Medication history, where/when/how
  - What brings you to get Thai traditional medicine treatment/How do you know
- Opinions about traditional Thai medicine in constipation therapy
- Patient procedures to get traditional Thai medicine services
- Thai traditional medicinal service accession compared with modern medical service
- Advantage and disadvantage of Thai traditional medicinal service compared with modern medical service
  - Environment
  - Convenience before and during treatment
  - Waiting time
  - Service mind
  - Duration of treatment
  - Payment
  - Treatment result
  - Monitoring after treatment
- Opinions about the innovation of portable Thai herbal remedies with easier use for constipation therapy
- Problems, threats and suggestions