

1-1-2013

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Recommended Citation

Mangmeesri, Peeranuch; Wongsuphasawat, Kant; Gritsanapan, Wandee; and Viseshsindh, Wit (2013) "LAXATIVE EFFECTIVENESS OF CASSIA ANGUSTIFOLIA IN THAI CONSTIPATED PATIENTS," *The Thai Journal of Pharmaceutical Sciences*: Vol. 38: Iss. 0, Article 72.

Available at: <https://digital.car.chula.ac.th/tjps/vol38/iss0/72>

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LAXATIVE EFFECTIVENESS OF *CASSIA ANGUSTIFOLIA* IN THAI CONSTIPATED PATIENTSPeeranuch Mangmeesri^{1,3}, Kant Wongsuphasawat^{1,*}, Wandee Gritsanapan^{2,*} and Wit Viseshsindh³¹School of Anti-Aging and Regenerative Medicine, Mae FahLuang University, Bangkok²Department of Pharmacognosy, Faculty of Pharmacy, Mahidol University, Bangkok³Department of Surgery, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok**KEYWORDS:** *Cassia angustifolia*, Anthraquinone, Constipation**INTRODUCTION**

Cassia angustifolia Vahl., or senna, is among the most commonly used herbal laxatives and has been used for medicinal purposes for centuries. Senna pods are more stable and produce less spasmodic pain side effect than the leaves due to their lower content of free anthraquinones^{1,2}. The active principle of anthraquinone compounds such as aloe-emodin and its glycosides, physcion, rhein, rhein-8-glucoside, sennosides A and B, which promote peristaltic movement of the large intestine, was reported to be anthrone compound³. Although *C. angustifolia* has long been used for its laxative effect, no clinical research has been performed in Thai people. The objective of this blinded, clinical controlled trial was to test the laxative effectiveness of *C. angustifolia* in Thai patients with constipation.

METHODS

Patient Patients with a diagnosis of constipation who attended the outpatient clinic at Ramathibodi Hospital, Mahidol University, Bangkok, Thailand during April to June 2013 were invited to participate in the research project. Eligibility criteria included functional constipation as defined by Rome III criteria⁴. Moreover, patients had to be older than 20 years. Patients taking concomitant medications that could modify bowel habit were excluded. Patients with severe liver, renal or cardiac diseases, uncontrolled diabetes mellitus or fecal incontinence, as well as pregnant women, were also excluded. The trial was approved by the hospital's ethics committee.

Study drug Commercial *C. angustifolia* tablets containing 15 mg of total sennosides calculated as sennoside B were used.

Instrument Daily stool chart indicated the frequency and quantity of stools, stool consistency, ease of evacuation and the presence of other symptoms or side effects was used.

Research procedure Thirty six participants were recruited according to the eligibility criteria to join the clinical study. All patients were assigned to five days of treatment with *C. angustifolia* tablets. Before entry into the study, patients had three- to five-day period free of laxatives as a wash out period (for ethical reasons, the maximum period without a bowel movement). Two tablets of *C. angustifolia*, blinded as drug "A", were given once daily before bedtime to each participant for 5 consecutive days. Patients followed their normal diet but were asked to consume no product containing probiotics or prebiotics such as fermented milk or yogurt five days prior to the on-study period.

Outcome measure All research participants were subjected to self-assessment report on daily stool chart, indicating the stools frequency, quantity, stool consistency, the ease of evacuation and the presence of other symptoms or side effects (including abdominal bloating, abdominal pain or cramps, nausea, wind or flatulence, headache, anorexia and urgency) everyday during the research. The stool quantity can be estimated by comparison of the stool with the chicken egg size. Stool consistency was rated using the Bristol Stool Form (Figure 1). The stool evacuation was recorded by a scoring system (1-5 on a visual analogue scale where 1 indicated very difficult and 5 indicated excellent results).

Statistical analysis Continuous data were shown as means and SDs. Categorical data were expressed as percentages.

RESULTS

The results showed that most participants (48.33%) had stool frequency of 1 time/day, followed by the no stool frequency group (26.11%), while the smallest group of participants (1.11%) had stool frequency of 3 times/day. The mean of the stool quantity was 2.19, while the mean of stool evacuation was 3.70. The stool consistency was in type 4 (ideal stool) (27.01%). No adverse drug effect was found in most (73.33%) of the participants.

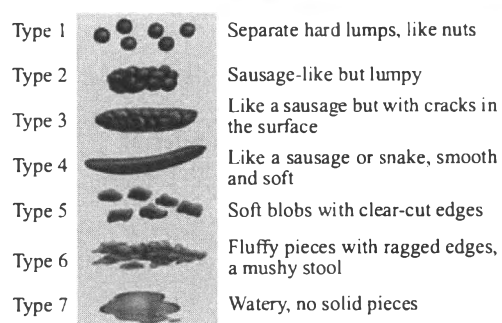


Figure 1 Bristol Stool Form scale

Table 1 Stool frequency of the research participants

Stool frequency	Number of participants	% of participant
None	47	26.11
1 time/day	87	48.33
2 times/day	39	21.67
3 times/day	2	1.11
More than 3 times/day	5	2.78
Total	180	100.00

Table 2 Stool consistency of the research participants

Type of stool	Number of participants	% of participant
Type 1	3	2.19
Type 2	28	20.43
Type 3	20	14.60
Type 4	37	27.01
Type 5	21	15.33
Type 6	19	13.87
Type 7	9	6.57
Total	137	100.00

Table 3 The adverse drug effects found in the research participants

Adverse drug effects	Number of participants	% of participants
None	132	73.33
Abdominal bloating	19	10.56
Abdominal pain or cramps	17	9.44
Nausea / vomiting	0	0
Headache	0	0
Anorexia	10	5.56
Muscular cramp	2	1.11
Total	180	100.00

DISCUSSION

Constipation is a very common problem that affects most people during their lives. The prevalence of chronic constipation from Thai Motility Club study in Thai population is about 23.5%,⁵⁾ which is very high when compared to other functional bowel disorders. Although changing in lifestyle and diet are suggested as the first choice of treatment for patients with constipation, those patients who still have constipation need a laxative drug. Among the popular self-administered laxatives or drugs prescribed by physician, *C. angustifolia* is one of the common laxatives used. Due to its natural origin, less toxicity, and accessibility without a medical prescription, *C. angustifolia* is a popular laxative drug for constipation treatment. However, no clinical research has been performed in Thai people. Therefore, this research was set up in order to use commercial *C. angustifolia* sold in Thailand as the laxative drug to treat Thai constipated patients. From the results, *C. angustifolia* promoted moderate laxative effects in the patients. Therefore, *C. angustifolia* can be considered as a laxative for the initial treatment. This study helps confirming the laxative effectiveness of this herbal remedy and provides additional scientific support for this well-known traditional medicinal plant.

REFERENCES

1. Gilman AG, Goodman LS, Gilman A. 1990. The Pharmacological Basis of Therapeutics, 6th ed, Macmillan Publishing, New York.
2. Gritsanapan W. 2010. Ethnomedicinal plants popularly used in Thailand as laxative drugs. In Chattopadhyay D. (Ed.), Research Signpost, 295-315.
3. Barnes J, Anderson LA, Phillipson JD. 2002. Herbal Medicines, 2nd ed, The Pharmaceutical Press, London.
4. Drossman DA. 2006. Rome III: the new criteria. Chin J Dig Dis 7: 181-185.
5. Chonmaitree P, Udompunturak S, Leelakusolvong S. 2009. Efficacy and Safety of 28 days Treatment with Sodium Phosphate Solution in Management of Chronic Constipation (Preliminary Study). Thai J Gastroenterol 10 (1): 24-27.