Pharmacognostical and phytochemical evaluation of Haritakyadi Yoga: A compound formulation

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Abstract

Background: In Ayurveda literature, identity of plants depends on synonyms and vernacular names. It is difficult for proper identification of all source plants and comparison of the drugs which is described in Ayurveda literature. However, with the help of botany and its divisions, it can be possible. Adulteration, quality control, and substitution are other problems of drug. One can get proper guidance for these things with the help of pharmacognosy. Ayurveda physician used Haritakyadi Yoga in Agnimandya (Anorexia) in day-to-day practice. Objective: The present study aimed to standardize the finished product Haritakyadi Yoga and to confirm its identity, quality, and purity. Materials and Methods: The selected samples were subjected to pharmacognosy study, physiochemical characteristics as per standard procedures. Results: The observation revealed that the presence of Scalariform vessels of Shunti, starch grains of Shunti, Sclereids of Haritaki, Stone cells of Haritaki, fibers of Shunti, Epicarp cells of Haritaki, cork cells of Shunti, oil oleoresin content of Shunti, and tannin content of Haritaki. Conclusion: The data evolved from this study can be adopted for laying down the standards for Haritakyadi Yoga.

Key words: Agnimandya, Haritaki, Haritakyadi Yoga, Pharmacognosy, Pharmaceutics, Saindhava, Shunthi

INTRODUCTION

Food is the factor which sustains and supports the Dosha (humors of body), Dhatus (tissue elements), and Mala (waste metabolic product), but it depends on Agni (digestive fire) for proper digestion and then only development of Rasa, Rakta Dhatu occurs.1 If Agni becomes normal, digestion of food become proper, Rasadi Dhatu gets proper nutrition, and the Sara of the Saptadhatus is potent, thus the occurrence of diseases is prevented.2 Intake of Ahita Aahara is responsible for vitiation of Agni, which leads to Agnimandya. Agnimandya is a disease of the Abhyantara Roga Marga marked by inhibited activity of the Pachakagni resulting in delayed or partial digestion or indigestion of food taken even in small measures at proper intervals. There are various herbal and herbo-mineral formulations mentioned in Ayurveda classics for the management of dyspepsia, in which Haritakyadi Yoga is one of them.(Ref) It contains Haritaki (Terminalia chebula Retz.), Shunthi (Zingiber officinale Rosc.), and Saindhava (Rock Salt). Dravya (Medicinal Drugs) is one of the factors in Chikitsa Chatushpada and occupies an important position next to the Bhishaka (Physician).3

Aim

To authenticate the Haritakyadi Yoga as per Pharmacopoeial (AFI and Ayurvedic Pharmacopoeia of India [API]) method. To evaluates the quality of drug and dosage form.

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Received: 02-04-2016
Revised: 11-05-2016
Accepted: 11-06-2016
MATERIALS AND METHODS

Drug Material

The raw sample of Haritaki, Sonthi, and Saindhava were collected from the Pharmacy of Institute for Post Graduate Teaching and Research in Ayurveda (IPGT and RA), Gujarat Ayurveda University, Jamnagar, Gujarat, India. The ingredients and the part used are given in Table 1.

Pharmacognostical Evaluation

The drugs were identified and authenticated by the Pharmacognosy Department, IPGT, and RA, Gujarat Ayurved University, Jamnagar, Gujarat, India. The identification was carried out based on organoleptic characters and powder microscopy of the drugs as mentioned in API. Later, powder microscopy is done with Churna only. Churna dissolved in small quantity of distilled water, filtered through filter paper, and studied under the microscope attached with camera, with stain, and without stain. The microphotographs were also taken under the microscope.[4]

Methods of Preparation of Haritakyadi Yoga

All the dried ingredients were taken and converted into Churna then it mixed well.

Physico-chemical Evaluation

Haritakyadi Yoga was analyzed using standard qualitative and quantitative parameters; high-performance thin layer chromatography was carried out after making an appropriate solvent system with methanolic extract of Haritakyadi yoga at the Pharmaceutical Chemistry Lab, IPGT, and RA, Gujarat Ayurveda University, Jamnagar, Gujarat, India.[5]

OBSERVATION AND RESULTS

Organoleptic Study

Organoleptic features of Haritakyadi Yoga are described in Table 2.

Microscopic Study

The diagnostic powder microscopic characters of Haritakyadi Yoga showed that Scalariform vessels of Shunthi, starch grains of Shunthi, Sclereids of Haritaki, Stone cells of Haritaki, fibers of Shunthi, Epicarp cells of Haritaki, cork cells of Shunthi, oleoresin content of Shunthi, tannin content of Haritaki [Figure 1a-i].

Physico-chemical Parameters

Very simple and few analytical parameters were used, to verify the drug standardization as per CCRAS recommendations at the Pharmaceutical Chemistry Lab, IPGT, and RA; they are like a loss on drying, ash value, pH, and water-soluble extract.[6] The details are tabulated in Table 3.

DISCUSSION

Pharmacognosy and phytochemical evaluation of Haritakyadi Yoga was performed which is a potent medicine in the management of Agnimandya. Preliminary

Table 1: Ingredients of Haritakyadi Yoga

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Botanical name</th>
<th>Part used</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haritaki</td>
<td>Terminalia chebula Retz.</td>
<td>Dried fruit</td>
<td>1 part</td>
</tr>
<tr>
<td>Shunthi</td>
<td>Zingiber officinale Rosc.</td>
<td>Dried rhizome</td>
<td>1 part</td>
</tr>
<tr>
<td>Saindhav</td>
<td>Rock salt</td>
<td>Mineral</td>
<td>1 part</td>
</tr>
</tbody>
</table>

Table 2: Organoeleptic characters of Haritakyadi Yoga

<table>
<thead>
<tr>
<th>Organoleptic characters</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Yellowish</td>
</tr>
<tr>
<td>Taste</td>
<td>Amla, Lavan, Katu, Kashaya, Tikta</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
<tr>
<td>Touch</td>
<td>Fine powder</td>
</tr>
</tbody>
</table>

Figure 1: Microscopic characters of Haritakyadi Yoga. (a) Scalariform vessels of Shunthi. (b) Tannin contains of Haritaki. (c) Starch grains of Shunthi. (d) Sclereids of Haritaki. (e) Oleoresin of Shunthi. (f) Epicarp cells of Haritaki. (g) Mesocarp cells of Haritaki. (h) Cork cells of Shunthi. (i) Starch grains of Shunthi
organoleptic features and results of powder microscopy show the ingredients, which were used confirming the quality of Haritakyadi Yoga Churna. All the ingredients were proved to be authentic and compared with the parameters mentioned in API.[7] In the physiochemical analysis, loss on drying (110°C), ash value, water-soluble extract, methanol-soluble extract, and pH (5% aqua solution) were assessed. Although the groundwork requisites for the standardization of Haritakyadi Yoga are covered in the current study, additional important analysis and investigations are required for the identification of all the active chemical constituents of the test drug to substantiate the clinical efficacy.

**CONCLUSION**

All the basic standard operating procedure requirements were carried out, and Haritakyadi Yoga fulfills all the requirements. Thus, the outcome of the study may be taken as standard references for the further studies.

**REFERENCES**


**Source of Support:** Nil. **Conflict of Interest:** None declared.