

# Medicinal plants used by the tribal and rural people of Satna district, Madhya Pradesh for the treatment of gastrointestinal diseases and disorders

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## Abstract

Gastrointestinal ailments are very common among the people of our country and tribals believe that it is a root cause for the occurrence of several other diseases. Modern synthetic medicine has so far not produced any effective curative drug. It only gives temporary relief. However, traditional herbal medicines have a better remedy for the diseases of digestive system. In the present paper herbal preparations used for gastrointestinal disorders by tribal and rural people of Satna district, Madhya Pradesh has been discussed. An effort is also made to correlate modern uses and activities of plants with the plants used by tribals and rural people for the curative purpose of gastrointestinal disorders.

**Keywords :** Medicinal plants, Tribal and Rural people, Satna district, Madhya Pradesh, Gastrointestinal diseases.

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## Introduction

Gastrointestinal disorders include the condition caused by eating indigestible, excessive or irregular foods, imbalanced and spicy diet, adulteration in food and contamination of drinking water, resulting the symptoms like abdominal pain, acidity, constipation, dyspepsia, indigestion, flatulence, etc. Diarrhoea, dysentery, colic and colitis also occur due to digestive complaints.

Tribal and rural people believe that digestive disorders are interrelated and arises from one other. However, the diseases of digestive system occur due to poor digestion. Therefore, they prescribe the drug, which would improve digestion,

check excess acid formation and enhance bowel movement.

A number of plants have been used among the tribal and rural communities for the treatment of various diseases including gastrointestinal disorders<sup>1-4</sup>. However, systematic study on a particular disease is meagre, except some published reports by Dwivedi<sup>5-7</sup> and Dwivedi *et al*<sup>8</sup>. Therefore, the present work was conceived and undertaken by us.

## Methodology

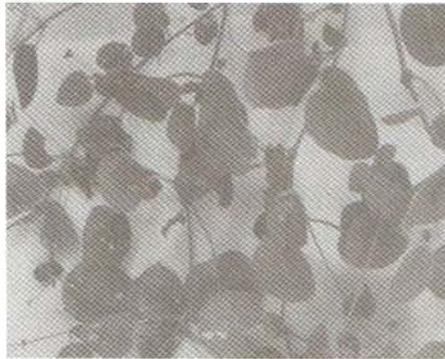
An ethnobotanical survey of 24 remote places of Satna district in Madhya Pradesh was made from April 2004 to

March 2005 to record of medicinal plants uses by the tribal and rural people for the treatment of gastrointestinal diseases. Voucher specimens were collected from different study site (1 to 24) and preserved as per method suggested by Agrawal<sup>9</sup>. The plants were identified at State Forest Research Institute, Polipathar, Jabalpur, Madhya Pradesh, India and are deposited in Lithnobotanical Research Laboratory, Department of Botany, Janata Post Graduate College, A. P. S. University, Rewa (Madhya Pradesh). Personal discussions were done between the authors and tribal and rural people of various age, sex and profession group as per questionnaire outlined by Varghese<sup>10</sup>. Three informants in each of the study sites were interviewed to obtain the herbal treatments for gastrointestinal disorders. A cross verification of the plants were made by relevant literatures<sup>11, 12</sup> and verification of the herbal remedies were confirmed by Jain<sup>13</sup> and Bakhru<sup>14</sup>. Method of preparation and mode of administration of the drug along with their dose, duration, etc. were also obtained by the inhabitants, tribal physicians and rural medicine men.

## Preparations and treatments

Following preparations are prepared for the treatment of gastrointestinal diseases and disorders:

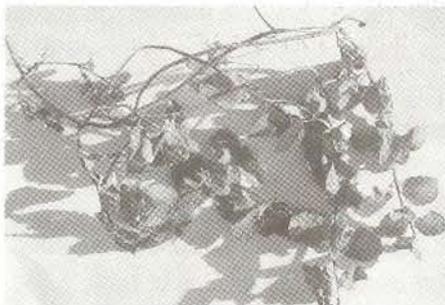
1. Dry part of following herbs is taken as per proportions mentioned and a powdered mixture is made adding a small amount of black salt. The herbs used are: rhizome of *Acorus calamus* Linn. (*Bach*), 100g; root of *Boerhaavia diffusa* Linn. (*Punarnaba*), 100g; flower pedicel of *Calonyction muricatum* G. Don syn. *Ipomoea muricata* Jac. (*Khotalilya*), 50g; leaves of *Cassia angustifolia* Vahl (*Senna*), 150g; fruit pulp of *C. fistula* Linn. (*Amaltas*), 100g; rhizome of *Curcuma longa* Linn. (*Haldi*), 50g; fruits of *Helicteres isora* Linn. (*Marorphali*), 50g; and leaves of *Mentha arvensis* Linn. (*Pudina*), 50g. Two teaspoonful of this herbal powder is to be taken twice daily with lukewarm water.



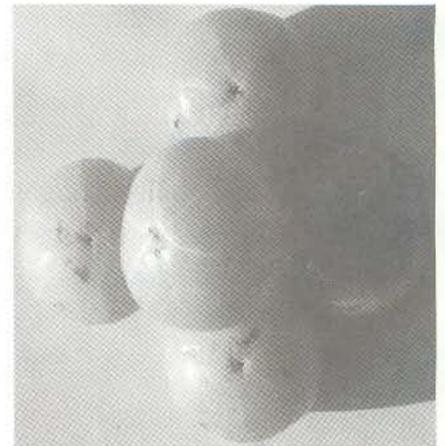
Boerhaavia diffusa



Helicteres isora



Mentha arvensis



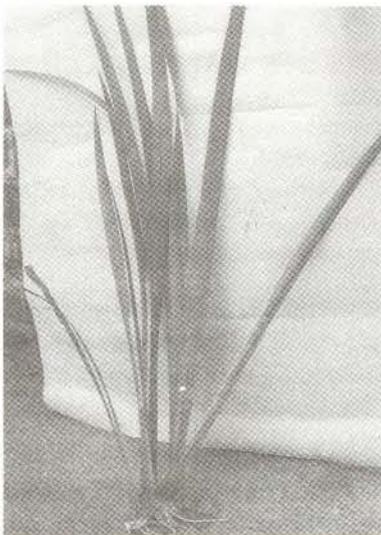
Emblica officinalis



Terminalia chebula



Terminalia bellirica



Acorus calamus

2. In another prescription rural people take equal amount of *Harra* (*Terminalia chebula* Retz.), *Bahera* (*T. bellirica* Roxb.), *Amla* (*Emblica officinalis* Gaertn.), *Ajwain* [*Trachyspermum ammi* (Linn.) Sprague] and a small amount of *Heeng* (*Ferula assafoetida* Linn.) with little salt, grind together to make a fine powder. About 10 g of this mixture is recommended twice a day after each meal with water in various gastric disorders.

3. Garlic (*Allium sativum* Linn.) has an antiseptic effect and is an excellent remedy for inflammation of intestine. Likewise, 4-5 fruits of *Shivalingi* [*Diplocyclos palmatus* (Linn.) C. Jeffrey] are fried with fresh cows purified butter and given twice daily for colitis.

4. The tribal and rural people prescribe *Saunf* (*Foeniculum vulgare* Mill.) for the treatment of colic. It is one of the safest herb for releasing the gas and relieve tummy. About 5 teaspoonful of seeds are boiled in 50ml of water and are allowed steep for 15 minutes. The water is then strained cooled and given to cure colic.
5. Acute loose motion can be prevented by taking 20ml fresh bark juice of *Arjun* [*Terminalia arjuna* (Roxb.) Wight & Arn.] with 40 ml curd water. About 5 ml leaf extract of *Chhoti dudhi* (*Euphorbia microphylla* Linn.) is very useful in infantile diarrhoea.

### Results and Discussion

The herbs used in the treatment of various gastrointestinal complaints, viz. constipation, indigestion, acidity and flatulence are easily available, common and cheaper. The method of preparation and mode of administration are also simple and convenient. The tribal and other people of below poverty line can afford the treatment. The personal faith and belief gave encouraging result in the treatment.

The plants used by layman against abdominal disorders have been found to possess remarkable digestive properties. *Acorus calamus* is a wonderful herb used by tribal and rural people for the treatment of various digestive complaints. The rhizome has a yellow, aromatic, volatile oil containing calamen, which acts as carminative and relieves flatulence and feeling of powerfulness of stomach

considered a household remedy for colic and for increasing appetite. Moreover, essential oil showed spasmolytic activity in animals<sup>15</sup>. *Boerhaavia diffusa* has also found wide acceptance in modern medicine as a good diuretic, stomachic and laxative due to presence of an active constituent punarnavine<sup>16</sup>. Immature floral pedicels of *Calonyction muricatum* (*Khotaliya*) have remarkable digestive capacity and used as appetizer<sup>3</sup>. Recent studies indicate that two glycosides sennocide A and B present in *Cassia angustifolia* leaves have a strong purgative and laxative action and increase the peristaltic movement of intestine<sup>17</sup>. The fruit pulp of *C. fistula* has also similar properties<sup>18</sup>. The rhizome of *Curcuma longa* has antiseptic, antacid, carminative and anti-oxidant properties due to phenolic character of curcumin powder. Dry powder appreciably increases the mucin content of gastric juice in rabbit thereby confirming its beneficial effect in gastric disorders<sup>19</sup>. Likewise, *Helicteres isora* is a drug of choice for some stomach complaints and very useful in the griping of bowels and flatulence. Barik *et al*<sup>20</sup> found the potent efficiency of this herb due to presence of phytosterol, saponins, diosgenin, lignins, etc. Leaves of *Mentha arvensis* are well-known for its antiseptic, carminative, stomachic and refrigerant characteristics and it is a native remedy in various digestive troubles.

*Harra*, *baheera*, *amla*, *ajwain* and *heeng* are used in traditional system of medicine for various stomach complaints. The fruits of *Emblica officinalis* are an excellent remedy for indigestion and flatulence, have an alkaloid phyllebin, several tannins, rich

vitamin C, gallic and ellagic acids<sup>21</sup>. *Terminalia chebula* contains chebulin with large amount of tannins used primarily as purgative and laxative to improve the function of stomach and intestine. Likewise, *T. bellirica* having bellericanin with gallic, ellagic and chebulic acids and a large number of sugar is used in several such problems. Studies on the modern line revealed potent purgative, laxative, anti-flatulence and digestive activity of the drug<sup>22</sup>. Furthermore, *Trachyspermum ammi* and *Ferula assa-foetida* have long been used in indigenous medicine for the treatment of atonic dyspepsia, flatulence and spasmodic disorders and are essential ingredient for most of the digestive powders<sup>14</sup>.

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