contain essential oils as the active principles and possibly those from the Rutaceae too. Those from the Fabaceae contain diverse substances like lectins, alkaloids, saponins and tannins.

XIII. AYURVEDIC FORMULATIONS FOR GASTROINTESTINAL DISORDERS

The Government of India has published "The Ayurvedic Formulary of India", consisting of compound formulations with mineral, animal and plant components (Anonymous, 1978). There are 444 formulations in 21 categories for the treatment of the ailments recognised in the Ayurvedic system of medicine. The formulary includes 351 plant species.

There are 151 formulations against 20 different symptoms relating to the gastrointestinal disorders in the formulary. The formulations, the Sanskrit names and the English equivalents of the 20 symptoms are given in Table 7. It should be remembered that it is difficult to accurately translate the Sanskrit names of the symptoms into their English equivalents due to overlap of concepts as could be seen from Table 7.

A comparison of Tables 1, 2 and 7 suggests that about 80 species of plants are used in the formulations against gastrointestinal disorders.

About 30 species are repeatedly used in a number of formulations in different contexts of gastrointestinal
disorders. As is evident from Table 3, this is because of the diverse therapeutic properties of some plant species.

The database presented here includes 127 species as against the frequently used 80 species or so in the formulations against gastrointestinal disorders. This means that several species are not incorporated into the formulations. One reason could be that these species have been added during the times subsequent to the three main source texts of Ayurveda by Charaka, Sushruta and Bhavaprakasha. It is necessary to recognise and evaluate the potential of the little used and unused species as these may prove to be equal to or even better than, those that are already in the use in the formulary.

Among the 20 symptoms of gastrointestinal disorders, *grahini* (malabsorption leading to diarrhoea/dysentery) has 57 formulations while *agnimandya* (lowered digestive capacity) has 55 formulations. These two symptoms, with very number of formulations against them, are due to diverse causes. Obviously, the need to establish the cause before a particular formulation is administered was well recognised. *Amatisara* (dysentery), *antrasula* (colic) and *visamagni* (impaired digestion) have only a single formulation each and so the relevant formulations are very specific in their effects. The other symptoms have varying number of formulations (Table 7).
From the formulary it is also evident that some formulations indicated against gastrointestinal disorders may be used to cure symptoms not related to the gastrointestinal tract as well. Examples of this kind of multiple uses are the use of some formulations against the following symptoms:

- **Chardi** as antispasmodics; **anaha** to increase spasmodic movements; **jvara** against fevers; **amadosa** against colds (and allergies); **amajasula** and **antrasula** as analgesics; **amatisara, atisara, pravahika, rakta pravahika** and **visuchika** to control excessive secretory processes and **agnimandya** and **visamagni** to stimulate secretory function. Some of the formulations could be having antimicrobial effects as is evident from the database. This reflects one aspect of the holistic approach of Ayurveda.

While the symptoms of gastrointestinal disorders have several different formulations each, the formulations themselves do not have very wide applicability. Only **Sankha bhasma** (incinerated molluscan shell) was indicated against five symptoms.

**Mustakarishta, Pippalyadi ghrta, Jatiphaladya curna, Pancamruta parpati** and **Rasa parpati** are against four symptoms each (Table 7). Thirty six formulations are used against three symptoms each, 50 formulations against two
symptoms each and 66 formulations have only a single application in gastrointestinal disorders (Table 7). Thus the 151 formulations have 289 applications in treating gastrointestinal disorders. As already pointed out, these formulations may be used elsewhere depending upon the need for their therapeutic effects. Thus the formulations are generally more specific in their application while the symptoms usually have several alternate formulations against them.

Although the Ayurvedic formulary contains 444 formulations it does not appear to be comprehensive. A number of formulations in popular use are not included. For example, the following which are used extensively in treating gastrointestinal disorders are not found in the formulary.

a) Dasamoola is comprised of powdered roots of Aegle marmelos, Clerodendrum phlomidis, Desmodium gangeticum, Gmelina arborea, Oroxyllum indicum, Solanum indicum, Solanum xanthocarpum, Stereospermum suaveolens, Tribulus terrestris and Uraria picta. This formulation is used as powder or decoction. The Ayurvedic formulary includes Dashamoolarishta which has 74 ingredients of animal and plant origin, used for a variety of ailments.
b) **Trimada** is composed of rhizomes of *Cyperus rotundus*, fruits of *Embelia ribes* and roots of *Plumbago zeylanica* and is a very efficient sedative. It greatly reduces gastrointestinal discomfort and being an antispasmodic is useful in controlling dysentery/diarrhoea.

**XIV. DIETETICS DURING GASTROINTESTINAL DISORDERS**

The World Health Organisation defined health as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. Dietetics is an area with an increasingly important role in achieving this aim. Dietetic management is particularly important in treating gastrointestinal disorders. The following recommendations are based on Srilakshmi (1993):

a. **General Recommendation**

The diet should provide adequate bulk in a smooth finely divided form to avoid stimulation of gastric secretion and urination. Non-vegetarian food, high fat food, alcohol, caffeine, food difficult to digest (pulses, fibres, etc.), sweets, bakery products except bread, raw vegetables and raw fruits should be avoided.

b. **Diarrhoea**

Diet should be bland and afford rest to the gastrointestinal tract. It should prevent stimulation of peristalsis.