

Prevention and Cure of Digestive Disorders Through the Use of Medicinal Plants

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ABSTRACT Medicinal plants have proved to be effective for prevention and cure of various disorders. Their use against digestive disorders is very common at household level. The future generations can benefit, in case this knowledge is documented after its validation. Participatory Rural Appraisal (PRA) methods and tools were used for interacting with the rural women who were used as the main source of information. Scientific validation helped to determine the pharmacognosy and pharmacology status of the plants. The sources used for scientific validation were mainly the view of the experts and scientific literature besides adding the social value considering the views of *Hakims* and *Vaidyas*. The identification validation and documentation of the plant material from the state of Punjab reveal that twenty eight plants were used for digestive disorders and most of them were herbs. They were used for their preventive and curative properties. Most of these plants were available in the vicinity or their parts were available in form of spices at the household level.

INTRODUCTION

The older generations have acted as the custodians of indigenous knowledge and have passed it to the future generations through the word of mouth. But we see a steep decline in the passage and use of indigenous practices during the previous decades. This has not only led to the loss of information but will also deprive future generations of the benefits that can be derived from the use of indigenous practices and materials. But the turn of the century has seen a growing awareness regarding preservation and use of indigenous knowledge especially in the areas of health. In this context, the use of medicinal plants and revival of yoga has been observed.

Plants are the source of medication for preventive, curative, protective or promotive purposes. Their use for digestive disorders can be commonly observed at household level. Use of medicinal plants such as Mint, Ginger, Sacred basil and Omum can be observed in daily life. Kaur (1999) also highlighted the use of some of these medicinal plants for maternal health.

Focused attention was required to collect indigenous knowledge, rationalize and document the indigenous knowledge for its perseverance

and future use. It was with this goal that the Extension Component of All India Coordinated Research Project on Home Science undertook the task of collecting, rationalizing and documenting the indigenous knowledge. Present scientific endeavor was aimed at documentation of yielded information in terms of pharmacognosy and pharmacological status of medicinal plants used for digestive disorders in the state of Punjab (India).

MATERIALS AND METHODS

Data was collected from rural women regarding five common digestive disorders namely diarrhea and dysentery, constipation, stomach pain, vomiting and food poisoning. Their past practices regarding the use of medicinal plants was recorded and required information was used for achieving the objectives of the study.

Three step approaches was used to document of information:

Identification of Indigenous Knowledge:

Rural women were used as the main source of information and participatory rural appraisal (PRA) methods and tools were used for interacting with them. Information was elicited through key informant interviews and focus group discussions. Participant observation helped in mutual sharing and learning. Transect walk and note taking were used to seek in-depth

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information and document the first hand information in the rural setting.

Validation of Indigenous Knowledge: It consisted of views of experts and helped to determine the scientific rationality and comparability of obtained information with principles of science. Scientific validation was done at three levels and was similarly documented at the later stages:

Pharmacognosy: Dealt with taxonomical classification and morphological explanation of plant kingdom.

Pharmacology: Dealt with the properties and action with respect to body functions.

Application and Pharmaceutics: Dealt with formulations, form, dosage, frequency and duration of consumption.

The sources used for scientific validation were mainly the view of the experts and scientific literature. In some cases the local healers (*Vaidyas, Hakims* and some old village ladies) helped in adding social value to the indigenous knowledge.

However for achieving the objectives stated in this paper the findings pertain only on the pharmacological status of the identified plants.

RESULTS AND DISCUSSION

Plants Used for Digestive Disorders: Number of plants and their parts were found to be used by rural families in processed and non-processed form for prevention and cure of digestive disorders. Maximum number of plants as shown in Table 1 were used for stomach pain and vomiting, followed by constipation, food poisoning and least number were reportedly used for diarrhoea.

Some very common plants (parts) were found to be used for prevention and cure of digestive disorders. Fennel, Mint, Onion and Sacred/Holy basil were found to be very commonly used beside Black plum, Cardamom, Omum and Scared fig (Table 2)

While some like Onion and Mint are grown

Table 1: Distribution of plants used for digestive disorders

Disorder	Number of plants used
Diarrhea and dysentery	7
Constipation	9
Stomach pain and Vomiting	10
Food poisoning.	9

both at the household and farm level others like Scared fig and Black plum are found to be growing in the surroundings. Few like Fennel, Omum and Cardamom are commonly available spices at the household level. The required parts of other plants used for digestive disorders like Tamarind, Indian gooseberry, White dammer and Indian senna are available in the local market. Garlic, Ginger, Lemon and Pomegranate were also used in indigenous practices for cure and prevention of digestive disorders.

The use of these plants can be attributed to them possessing some properties which have been experienced by rural women to prevent and cure digestive disorders besides being easily available for use at all times. The experience of the elders as passed to these women also helped to trust the effectiveness of these medicinal plants. Gorter et al. (1995) also described two studies, one ethnographic and other epidemiologic to find out the beliefs and traditional health practices and their influence on the way in which mothers respond to their children's illness regarding diarrhoea. In most cases mothers had more confidence in folk logic treatments that they themselves or the traditional healers applied, than the service offered at health centers.

Table 2: Plants used for digestive disorders

Medicinal plants	
English name	Botanical name
Onion	<i>Allium cepa</i>
Holy basil	<i>Ocimum tenuiflorum</i>
Sacred basil	<i>Occimum sanctum</i>
Ginger	<i>Zinigiber officinale</i>
White dammer	<i>Vaterra indica</i>
Black plum	<i>Syzygium cumini</i>
Scared fig	<i>Ficus religiosa</i>
Mint	<i>Mentha arvensis</i>
Fennel	<i>Foeniculum vulgare</i>
Spinach	<i>Spinacia oleracea L.</i>
Garlic	<i>Allium sativum</i>
Banyan tree	<i>Ficus banghalensis</i>
Black myrobalan	<i>Terminalia chebula</i>
Lemon	<i>Citrus aurantifolia</i>
Pomengranate	<i>Punica granatum</i>
Cardamom	<i>Elettaria cardamomum</i>
Pipla mool	<i>Piper longum</i>
Green chillies	<i>Capsicum annum</i>
Omum	<i>Trachyspermum ammi</i>
Indian gooseberry	<i>Phyllanthus emblica</i>
Belleric myrobalam	<i>Terminalia bellirica</i>
Indian hemp	<i>Cannabis sativa</i>
Nutmeg	<i>Myristica fragrans</i>
Tamarind	<i>Tamarindus indica</i>
Belliric myrobalam	<i>Terminalia bellirica</i>

The other reason could be their easy availability making them accessible to the rural folks for use. Vatsyayan and Shiromni (2002) also reported the effectiveness of using plants products like seeds of Pomegranate, Dry ginger, Black pepper and Bay leaves for preparation of effective home remedies against various digestive problems like, loss of appetite, gas trouble, indigestion, diarrhea and dysentery. An earlier study (Sidhu et al., 2004) also reported the indigenous use of some of these plants by rural women for pre-post delivery care.

Pharmacology Status of the Identified Plants:

The pharmacology status of the identified plants was determined individually for each disorder and has been discussed as under:

Table 3: Pharmacological status of plants used for prevention and cure of diarrhea and dysentery

<i>Pharmacological Status</i>	
<i>Properties</i>	<i>Action</i>
Stimulant	Stimulates and facilitates the bowel movement
Appetizer	Improves appetite
Tonic	Invigorates body tone
Anti bacterial	Prevents bacterial infection
Anthelmintic	Kills and extricates worms from intestine
Carminative	Cures flatulence
Anodyne	Reduces stomach pain
Stomachic	Increases appetite
Antiseptic	Prevents infection
Refrigerant	Provides cooling effect
Constipating	Controls bowel movement
Antispasmodic	Relief from spasms

Diarrhea and Dysentery: The plants identified for prevention and cure of diarrhea and dysentery were found to possess properties which were effective in preventing and providing relief and cure to the patient (Table 3). These plants were used as they acted against infection, provided relief from pain and spasm besides cleaning the stomach and extricating worms from intestine. Some were even used because they were stimulant and acted as appetizer after the cure of the disorder to rejuvenate the body. Punia and Chhikara (1999) also reported the use of Chebulic myrobalan (*Harad*) for dysentery by the rural women of Haryana villages.

Constipation: The properties of the plants as shown in Table 4 reveals that constipation was prevented and cured by use of plants which helped to stimulate bowel movement and softens the bowel. The flatulence caused as a result of constipation was also prevented and cured due

to the properties of the used plants. The effectiveness of these plants in improving digestion, appetite and reducing pain made them very effective against constipation.

Table 4: Pharmacological status of plants used for prevention and cure of constipation

<i>Pharmacological Status</i>	
<i>Properties</i>	<i>Action</i>
Demulcent	Provides cooling effect
Stimulant	Stimulates and facilitates the bowel movement
Emollient	Softens the bowel
Appetizer	Improves appetite
Digestive	Improves digestion
Tonic	Invigorates body tone
Anti bacterial	Prevents bacterial infection
Laxative	Promotes digestion by softening the bowel movement
Anthelmintic	Kills and extricates worms from intestine
Carminative	Cures flatulence
Anodyne	Reduces stomach pain
Stomachic	Increases appetite
Aperient	Loosen the bowel
Antiseptic	Prevents infection
Purgative	Eases gastric problems

Table 5: Pharmacological status of plants used for prevention and cure of stomach pain and vomiting

<i>Pharmacological Status</i>	
<i>Properties</i>	<i>Action</i>
Anti-bacterial	Effective against infection
Antiseptic	Destroys germs
Vermifuge	Expels worms from body
Anthelmintic	Extricates worms
Stomachic	Improves digestion
Appetizer	Increases appetite
Carminative	Cures flatulence
Purgative	Ease gastric problems
Refrigerant	Provides cooling effect
Tonic	Enhances functional capability
Restorative	Renews strength
Anti vomiting	Prevents vomiting
Anti poisonous	Effective against food poisoning

Table 6: Pharmacological status of plants used for prevention and cure of food poisoning

<i>Pharmacological Status</i>	
<i>Properties</i>	<i>Action</i>
Digestive	Improves digestion
Anthelmintic	Destroys worms
Carminative	Cures flatulence
Appetizer	Increases appetite
Tonic	Provide strength
Astringent	Cooling effect

Stomach Pain and Vomiting: Stomach pain and vomiting are the outcome of various digestive problems. The plants used were found to help in easing pain and controlling vomiting as they had been found to have anti-bacterial, vermifugal and anthelmintic properties as shown in Table 5. They helped to destroy germs, cure flatulence and ease gastric problems. Some of the plants were used to enhance the functional capability of the body, renewal of strength and increasing appetite. The anti vomiting properties also helped to control vomiting and provide relief.

Food Poisoning: Plants effective in improving digestion, destroying worms and curing flatulence were used for prevention and cure of food poisoning as shown in the actions of the medicinal plants in Table 6. Some also helped in increasing appetite and provide strength to the body. Borthakur (1992) also reported the use of local plant species in the state of Assam for the treatment of worm infestation in children. He found that people were using thirteen plant species for this treatment.

This clearly indicates that local plant material and some of the easily available plant parts at the household level are used by rural women for prevention and cure of digestive disorders.

SUGGESTIONS

Rural women use number of locally available plant parts for prevention and cure of digestive disorders. These plants are used as they have been found to possess properties which are effective against digestive disorders. The use of

different parts of the medicinal plants not only help to decrease the cost of medication but are also locally available, with least side effect as compared to chemical based medication. Paul and Ramanathan (2002) reported that nearly seventy five per cent of the 121 plants derived prescription drugs used world wide, were discovered following leads from indigenous medicine. The use of these medicinal plants should be encouraged through the dissemination of the knowledge among the masses. This will help to ensure the preservation and continuous passage of this effective knowledge on the use of various plants for prevention and cure of health related disorders.

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