Ethnobotanical identification of medicinal plants effective on bloat in

Lorestan province, west of Iran

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ABSTRACT

Objective: Bloating and gas accumulation is one of the most common gastrointestinal disorders. Since herbs are always one of the most important sources of medicines for many kind of diseases, so we try to investigate and introduce Lorestan local anti-bloating herbs in this study.

Methods: The traditional treatment data of this study were collected from the indigenous peoples and through cooperation of Dorud Health and treatment Network, Boroojerdi, Khorramabad, Aleshtar, Poldokhtar, Aligudarz, Nurabad and Kouhdasht. Questionnaires were prepared before and the volunteers were trained. Trained volunteers by mentioned questionnaire recorded people’s beliefs about alternative medicine in the treatment of flatulence.

Results: Eventually it was investigated that 13 remedial plants from 10 plant families were effective in the treatment of flatulence. In many parts of the world, especially in remote areas where there isn’t any access to doctors and medicine, people use Folk medicine and homemade treatments.

Conclusions: The awareness of these applications can be a policy for the achievement of new medicinal uses of these plants which hadn’t been reported in the available literature as well.

KEY WORDS: Bloating, Traditional medicine, Medicinal plants, Lorestan, Iran.

1. INTRODUCTION

Stretching and abdominal distention, a feeling that is associated with excessive gas, and pushing the diaphragm upward reducing expansion of the lungs, called bloating. Bloating and gas accumulation is one of the most common gastrointestinal disorders (Oneyisi, 1982). The incidence of bloat in Asian societies is 23-15% and 30-15% in America's population (Lacy, 2011). Studies show that approximately twenty percent of people aged 65-93 have experienced abdominal distension due to intestinal gas (Clearfield, 1996). Another study was conducted on healthy people aged 21-59, found almost each person had to pass gas ten times a day (Furne, 1996; Bassotti, 1996).

The most common digestive problem that causes patients visit doctor, is intestinal gas. Gastrointestinal symptoms involve belching, bloating, abdominal distention, abdominal pain and bloating, which are generated in the digestive tract are common signs of gas accumulation (Chami, 1991; Aftab, 1999). Bloating have different degrees but severe bloating causes pain. To reduce the pain, medicines such as morphine sulfate, aspirin, codeine, meperidine hydrochloride and traditional analgesics and psychological drugs such as music, massage of abdomen, and surgical and clinical techniques, such as surgery and rectal tube are used. These drugs have side effects (Dewint, 1998; Farrell, 1980; Potter, 1999). Despite various treatments available for this condition, there is still debate over the best way to treat it. However, the use of the complementary and alternative medicine therapies overcomes some shortcomings of the current treatment (Kessler, 2001).

In many countries, cultures and nations medicinal plants have used to treat diseases and people believe in them strongly. Ethno botany studies provide valuable information for botanical science and these information creates basic clinical research to develop new drugs. The use of natural and herbal medicines are common in most countries of the world and increasingly expanding. Nowadays the known compounds of them are used as new drugs and can be used as a key for the low-cost and low side effects treatment in many diseases. The importance of Ethno botany researches is too high which using of traditional experiences increases the discovery of more effective medicine up to 40 percent, While this rate is only 1% in random researches. The herbs are always an important source of remedies to treat various human diseases (Bahmani, 2014; Rafieian-Kopaei, 2012; Amirmohammadi, 2014; Eftekhari, 2012; Bahmani, 2013; Bahmani, 2014; Bahmani, 2012). In this study, we tried to treat flatulence herb native to the people of the province, we are identified and reported.

2. MATERIALS AND METHODS

2.1. Studied region: Lorestan province is located in the west of Iran between 66° 51' - 50° 3' east longitude from the Greenwich meridian and 32° 37' - 34° 22' north latitude from the equator.

This province has 4 different climates (semi-arid, mild semi-humid, cold semi-humid and heights climate). Area of the province is about 283000h. Its minimum altitude is 330m in the Zal Bridge and the maximum altitude is 4050m in the Oshtorankoo. This province has variable climate and this variety is completely obvious from north.
2.2. Methodology and plant collection: Traditional remedial information of this study were obtained through interview and questionnaire and in cooperation with the Lorestan planning and management organization, Technology and Research Assistance of Lorestan Medical Sciences and benefiting indigenous information of people in province cities and also through cooperation of the treatment and health network in Doroud, Boroujerd, Khoramabad, Alshotor, Pole Dokhtar, AliGudarz, Nourabad, and Kouhdasht cities in Larestan province.

Questionnaire that was prepared in advance have been given to well trained volunteers by the heads of the health networks. The questionnaires included information about the location, and identification of the interviewer, the name of plants, the reason of using, usable parts of plants, mode of administration, and other traditional medicinal plants of this area. The average age range of the studied people was 50-85 years old and they included 21 women and 49 men. The trained volunteers gathered in village and recorded the information in questionnaires about botanical therapy’s belief of old people. The results exactly were recorded in charts.

3. RESULTS

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Family</th>
<th>Local or traditional name</th>
<th>Persian names</th>
<th>Usable Part of plant</th>
<th>How to use</th>
<th>Collection season</th>
<th>Traditional Therapeutic effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Althaea officinalis</em></td>
<td>Malvaceae</td>
<td>Gole Hiro</td>
<td>Althaee</td>
<td>Flowers and Seeds</td>
<td>Herbal tea</td>
<td>Spring and Summer</td>
<td>Abdominal bloating</td>
</tr>
<tr>
<td><em>Anethum graveolens</em></td>
<td>Umbelliferae</td>
<td>Shevit</td>
<td>Dill</td>
<td>All organs</td>
<td>Consumption of plant powder with food</td>
<td>Summer</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Berberis integrina</em></td>
<td>Berberidaceae</td>
<td>Zereshk</td>
<td>Barberry</td>
<td>Leaves and stems</td>
<td>Herbal tea</td>
<td>Spring</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Cichorium intybus</em></td>
<td>Asteraceae</td>
<td>Cheghecheghe</td>
<td>Chicory</td>
<td>Roots and Leaves</td>
<td>Plant roots are harvested, washed and boiled from morning till night, then it is used</td>
<td>All Seasons</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Cuminum cyminum</em></td>
<td>Apiaceae</td>
<td>Zireye sabz</td>
<td>Cumin</td>
<td>Seeds</td>
<td>(herbal tea) Melissa</td>
<td>Spring</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Elettaria cardamomum</em></td>
<td>Zingiberaceae</td>
<td>Hel</td>
<td>Cardamom</td>
<td>Seeds</td>
<td>Boiled Along with the tea and drink</td>
<td>Autumn</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Foeniculum vulgare</em></td>
<td>Apiaceae</td>
<td>Razianeh</td>
<td>Fennel</td>
<td>Seeds</td>
<td>Herbal tea is drunk. The seeds are cooked and eaten with milk and rice, powder of Seeds are eaten also with meal</td>
<td>Spring</td>
<td>Abdominal bloating</td>
</tr>
<tr>
<td><em>Fumaria parviflora</em></td>
<td>Fumariaceae</td>
<td>Shatareh</td>
<td>Fumaria parviflora</td>
<td>Leaf</td>
<td>Leaf powder mixed with yogurt and used</td>
<td>Spring</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Heracleum persicum</em></td>
<td>Apiaceae</td>
<td>Golpar</td>
<td>Angelica</td>
<td>Flowers and Leaves</td>
<td>(herbal tea) Melissa</td>
<td>Spring</td>
<td>Distention</td>
</tr>
<tr>
<td><em>Matricaria recutita</em></td>
<td>Compositae</td>
<td>Gole Bayneh</td>
<td>Chamomile</td>
<td>Petals</td>
<td>herbal tea or powder consumed by food</td>
<td>Spring</td>
<td>Carminative</td>
</tr>
<tr>
<td><em>Mentha longifolia</em></td>
<td>Lamiaceae</td>
<td>Pineh</td>
<td>Oregano</td>
<td>Shoot</td>
<td>Dried plant with yogurt or buttermilk mixture and eat 3 times a day</td>
<td>Spring and Summer</td>
<td>Abdominal bloating</td>
</tr>
<tr>
<td><em>Plantago major</em></td>
<td>Plantaginaceae</td>
<td>Khorchang</td>
<td>Ispaghula</td>
<td>All organs</td>
<td>(herbal tea) Melissa</td>
<td>Spring and Summer</td>
<td>Carminative and laxative</td>
</tr>
<tr>
<td><em>Teucrium polium</em></td>
<td>Lamiaceae</td>
<td>Maryam nokhodi</td>
<td>Mary pea</td>
<td>Flowers and Seeds</td>
<td>(herbal tea) Melissa</td>
<td>Spring</td>
<td>Carminative</td>
</tr>
</tbody>
</table>

Discussion: Forests and mountainous areas of the Lorestan province due to suitable physiotopographical and continental condition have the high species richness of medicinal plants and native flora and these plants have attracted the attention of the residents since thousand years ago. In this context, the indigenous inhabitants of the Lorestan use these herbs to prevent and treatment of diseases as per predecessors’ experience. In general, traditional medicine and folk beliefs about medicinal plants in the study area have special effect and documentation of these information has special importance.
In our study, at least 13 medicinal plants from 10 plant families were effective in the treatment of flatulence. By comparing the mentioned plants in this study and other ethno medicine studies in different provinces of Iran, similar and different effects have been reported, mentioning below.

In The traditional knowledge of Kerman, L. Cuminum cyminum is used to treat flatulence. Althea (Malva microcarpa) is used to treat skin infections, antifungal, antiparasitic and to treat colitis (Sharififar, 2010). In Arasbaran area in IRAN, the barberry (Berberis vulgaris L.) is utilized for gastrointestinal problems and liver damage induced by bile. The chicory (Cichorium intybus) as a laxative, chamomile (Anthemis nobilis) for the treatment of emphysema, the pennyroyal (Mentha longifolia) as a carminative, of Oregano (Origanum vulgare) as a stomach tonic and Angelica (persicum Heracleum) as carminative and digestive problems resolver were used (Zolfaghari, 2013). In Sistan’s ethnobotany, cumin plant (Cuminum cyminum L.) is used as a carminative and tonic for the stomach and food digestion. Plantain (Plantago lanceolata) is used as a laxative and to relieve colds and skin irritations or anti-hemorrhoids (Iranmanesh, 2010). The traditional knowledge of Shiraz uses Armenian marshmallow (Althea aucheri Boiss) to treat digestive disorders. In Kazeroon, these herbs are used: the Dill (Anethum graveolens L.) and chamomile (Anthemis austro-iranica) to overcome the coldness of temperament, the chicory (Cichorium intybus L.) to strengthen the stomach, the pennyroyal (Mentha longifolia) to reduce bloating and stomach acid reduction, the Mary pea (Teucrium polium L.) to eliminate bloating and the althaea (Alcea aucheri) as a laxative (Sadeghi and Borjian, 2013). In Kashan, chamomile (Anthemis gyaiana Boiss.) is used to unblock arteries, chicory (Cichorium intybus L.) as a coolant, Fumaria parviflora (Fumaria parviflora Lam.) to Remove the body eczema (Abbasi, 1991). In Mobarakeh of Esfahan, the chamomile (Chamomilla recutita L.), cumin (Cuminum cyminum L. and pennyroyal (Mentha pulegium L) are used to treat diarrhea and stomach strengthening. the chicory (Cichorium intybus L) is used to treat constipation. In The traditional knowledge of Ilam, the althaea (Alcea angulata) is used for wound healing; chamomile (Anthemis alitissima) as a digester and chicory (Cichorium intybus L.) as laxatives and stomach pain (Ghasemi Pirbalouti, 2013).

The processed drugs from medicinal plants are as biological innovations in the field of medicine and are suitable alternative for chemical agents (Delnavaz Hashemlouian, 2008). Medicinal plants and herbal drugs have contained bioactive substances and antioxidant compounds which are recommended and used as one of the most popular traditional and ethnopharmacology any parts of the world, especially in remote areas where access to doctors and medicine is limited, people often utilize home-made medicine and traditional folk treatments. Awareness of These applications can be policy for the achievement of new medicinal uses of these plants which haven’t been reported in the available literature. Also using of these mentioned herbs in clinical researches is necessary to identify the therapeutic and toxic effects. On the other hand it can be transferred wrongly to next generations as result of unknown side effects, so it requires more studies and researches.

REFERENCES


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