USE OF INDIGENOUS MEDICINAL PLANTS FOR RESPIRATORY DISORDERS

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ABSTRACT

The study was conducted in Parbhani and Nanded districts of Marathwada region of Maharashtra State, to know the indigenous knowledge of rural people regarding use of medicinal plants for respiratory disorders. Data were collected from old and experienced rural people with the help of specially designed interview schedule. The data were collected by PRA technique from five villages related to medicinal plants used for respiratory disorders. The collected information was then scientifically validated with the help of books on medicinal plants, drug index and consultation with Ayurvedic doctors. The study reveals that leaves of Eucalyptus, whole plant of Prickly chaff flower are useful to get relief from cough and leaves of Tulsi and root of turmeric are useful to cure cold. Where as leaves of Eucalyptus, roots of Carrot, leaves of Castor and seed and root of Cardamom are useful in tonsillitis. While leaves of Tulsi, fruits of Hirda and root and bark of Apta are useful for the patient suffering from sore throat.

INTRODUCTION

India is one of the richest nations in the world in terms of natural resources. Yet our knowledge about the vast treasure house of medicinal plants, gifted to us by Nature, is limited. In India plants have been traditionally used for agricultural practices and for homestead remedies. Their usage has been well documented in Vedas. They are as potent and effective today as they were during Vedic times. The influence of modernization, changes in lifestyle and increased desire for quick remedies have however decreased the inclination for acceptance of time - tested medicinal properties of these plants.

It is reported that 4639 ethnic communities who live in different regions of India use locally available medicinal plants to treat various ailments, based on their rich and varied folk knowledge. The Indian names of medicinal plants make their identification easy even for the common man. Medicinal plants are used by the codified systems of medicine, such as Ayurveda, Siddha, Tibetan and Unani. The World Health Organisation has defined traditional medicine as "A system comprising of therapeutic practice that have been in existence often for hundreds of years before the development and spread of modern medicine and still in use today" (WHO, 1991).

Self - reliance and self-help in basic primary health care is essential for citizens to lead a healthy life. This self-reliance can be achieved early and at a low cost by reviving and popularizing simple, yet effective, traditional methods of treating common diseases.

Tawade et al. (1998) conducted a study on awareness of villagers about medicinal plants and their use in Konkan region of Maharashtra. They found that the world has developed a new sense and interest for ayurvedic medicines. A variety of medicinal plant species were known and used by the villagers. They suggested that the knowledge about medicinal plants not known to and used by villagers be imparted to them and secondly, efforts be made to increase the area under the medicinal plants that are being used by majority of the villagers.

‘Yasmin deshe to yo jaatah tasya tajausadhamhitam’ – Sushruta Samhita.

The above quotation means Nature is so benevolently organized that it has provided every micro-environment, the natural resources (in form of plants, animals and minerals) necessary for the typical health needs of people.
### TABLE 1 Medicinal plants used to get relief from Cough and Cold

<table>
<thead>
<tr>
<th>Local Name</th>
<th>Botanical Name</th>
<th>Part used</th>
<th>Pharmacological status</th>
<th>Pharmaceutical status</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nilgiri</td>
<td>Eucalyptus</td>
<td>Leaves</td>
<td>-Expectorant</td>
<td>-Make a loose muslin cloth bag with 10-12 eucalyptus leaves.</td>
<td>Make a loose muslin cloth bag with 10-12 eucalyptus leaves.</td>
</tr>
<tr>
<td>(for cough)</td>
<td>globules</td>
<td></td>
<td>-Thermogenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Antiseptic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Anodyne</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Helps to bring out mucus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Generates heat and increases body temp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Reduces pain, infection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aghada</td>
<td>Acranthes</td>
<td>Whole</td>
<td>-Soothes the throat</td>
<td>-Roast the whole plant till turns black.</td>
<td>Roast the whole plant till turns black.</td>
</tr>
<tr>
<td>(for cough)</td>
<td>aspera</td>
<td></td>
<td>-Reduces pain caused due to inflammations</td>
<td>After cooling rub it &amp; make into powder.</td>
<td>After cooling rub it &amp; make into powder.</td>
</tr>
<tr>
<td>Tulas</td>
<td>Ocimum</td>
<td>Leaves</td>
<td>-Grinds 3 leaves &amp; 1cm piece of ginger.</td>
<td>-Mix the powder with honey.</td>
<td>Mix the powder with honey.</td>
</tr>
<tr>
<td>(for cold)</td>
<td>tenuiforum</td>
<td></td>
<td>-Extract juice &amp; mix with honey.</td>
<td>-Prepare tea/milk with 3-4 leaves, black pepp-er &amp; ginger.</td>
<td>Prepare tea/milk with 3-4 leaves, black pepp-er &amp; ginger.</td>
</tr>
<tr>
<td>Halad</td>
<td>Curcuma</td>
<td>Root</td>
<td>-Protects from the infection</td>
<td>-Mix turmeric powder with one glass of hot milk.</td>
<td>Mix turmeric powder with one glass of hot milk.</td>
</tr>
<tr>
<td>(for cold)</td>
<td>longa</td>
<td></td>
<td>-Sothes the throat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MATERIAL AND METHODS**

The study was conducted in Nanded and Parbhani districts of Maharashtra State. Biloli and Parbhani blocks were selected from Nanded and Parbhani districts respectively. Two villages, Kundalwadi and Biloli from Nanded district and three villages Asola, Jamb and Pedgaon from Parbhani district (total five living in that environment. The treasure house of plant wealth serves many purposes by many modes to mankind. Charaka said, 'All natural matters have potential medicinal value.' In practice medicinal plants are those, which have, been used in our medical traditions. Even the Teak tree has medicinal uses. Its seed is diuretic and its leaf is used in bone setting.

It is very important that the wild populations of the medicinal plants must thrive, because they represent some of our very valuable genetic resources as well as essential raw materials for propagation and cultivation of the plants outside their natural habitats for use by the indigenous medical practitioners of local health traditions, as also by the drug manufacturers. These wild medicinal plants also form a substantial part of our plant diversity, the conservation of which is critical to the health of our eco-systems. Keeping the importance of medicinal plants, the present study was conducted with the following objectives.

- To study the indigenous knowledge of medicinal plants used by rural people for respiratory disorders.
- To validate the indigenous knowledge scientifically.
**TABLE 2: Medicinal plants used to get relief from Tonsillitis**

<table>
<thead>
<tr>
<th>Local Name</th>
<th>Botanical Name</th>
<th>Part Used</th>
<th>Pharmacological status</th>
<th>Pharmaceutical status</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night</td>
<td>Eucalyptus globules</td>
<td>Leaves</td>
<td>Therapeutic</td>
<td>Generates heat &amp; pro-vides relief</td>
<td>Carrot as such</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Expectorant</td>
<td>-Temple, if any</td>
<td>-To bring out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Antiseptic</td>
<td>-Mucus</td>
<td>-Infection</td>
</tr>
<tr>
<td></td>
<td>Gajaran</td>
<td>Daucus carota</td>
<td>Root</td>
<td>Therapeutic</td>
<td>Generates heat &amp;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Expectorant</td>
<td>-Pro-vides relief</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Emollient</td>
<td>-Lymphatic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Anti-inflammmatory</td>
<td>-Reduces inflammation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Therapeutic</td>
<td>-Generates heat &amp;</td>
</tr>
<tr>
<td></td>
<td>Erangu</td>
<td>Ricinus communis</td>
<td>Leaves</td>
<td>Therapeutic</td>
<td>Generates heat &amp;</td>
</tr>
<tr>
<td></td>
<td>Vlahi</td>
<td>Elestaria cardamom- and root</td>
<td>Seed</td>
<td>Therapeutic</td>
<td>Generates heat &amp;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Expectorant</td>
<td>Causes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Helps to bring out</td>
<td>-Mucus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Controls infection</td>
<td>-Leaf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Grind 2gm of root or</td>
<td>———</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Paste</td>
<td>———</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Seed with one betel</td>
<td>———</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-For 5 days</td>
<td>———</td>
</tr>
</tbody>
</table>

Villages were selected for the study. The data were collected by using PRA technique with the help of pre-designed interview schedule received from the Technical Coordinator, AICRP, Extension component. The respondents were asked about the name of the particular plant, that is used by them for the particular disease, the part of the plant used, proportion, method of preparation, form of medicine and dosage. The collected information was then scientifically validated with the help of books on medicinal plants, drug index and consultation with Ayurvedic doctors.

**RESULTS AND DISCUSSION**

**Medicinal plants used for Cough and Cold**

It is observed from Table 3 that leaves of Eucalyptus (Eucalyptus globules) popularly known as Night, were used to get relief from cough. Its scientific validation reveals that the leaves are having expectorant property, which helps to bring out the mucus; thermogenic property generates heat and increases the body temperature, antiseptic property reduces infection and antiseptic property is effective in reducing pain. A loose muslin cloth bag with 10-12 leaves of Eucalyptus is made. This bag is placed on hot lava or pan to warm up the leaves. Then this warm bag is placed on forehead. This act has to be repeated for 3-4 times for three days. Eucalyptus is also used in Himachal Pradesh, Punjab, Rajasthan and Karnataka to get relief from cough.

Prickly chaff flower (Achranthes aspera) locally known as Aghada plant was also used to cure cough. The whole Prickly chaff flower plant is roasted till it turns black. Then it is cooled and rubbed between palms to powder it. This powder is mixed with honey. The paste thus prepared is consumed along with a glass of...
warm water once before going to bed. After
scientific validation it was noticed that Prickly
chaff flower plant contains expectorant
property which helps to vomit out the mucus.
It also has demulcent property which provides
soothing effect to the throat. The plant contains
anodyne and anti-inflammatory properties that
reduce pain caused due to inflammations. This
plant was also used by the people of Himachal
Pradesh, Punjab, Rajasthan and Karnataka to
cure cough.

Table 1 also shows that leaves of Tulasi
(Ocimum tenuiflorum) were used to get relief
from cold. Juice was extracted from leaves (4
to 5) of Tulasi and one cm long piece of ginger
by grinding and the same was given to patient
thrice a day till cold get relieved.

Secondly leaves of Tulsi (3-4) along
with black pepper and ginger were mixed in
milk or tea while boiling and same was given
to the patient twice for 2-3 days by adding sugar.
Scientific validation indicates that the leaves of
Tulsi were having febrifuge property, which
controls fever. The expectorant property helps
to bring out the mucus. Its alexeretic property
protects from the infection and demulcent
property soothes the throat. Tulsi was widely
used in near about all the states of India as a
household remedy for cold.

Turmeric (Curcuma longa) locally
known as Halad was also the plant used to get
relief from cold. Turmeric has thermogenic
pharmacological property that generates heat
and provides relief from cold. Its alexeretic and
anti-septic properties are useful in protecting
infection. Due to anti-inflammatory property,
pain caused due to inflammation is reduced.
Turmeric also has anodyne property, which
reduces pain. Turmeric powder (2-3 pinches)
is mixed with one glass of hot milk. This liquid
was given to the patient twice a day for 5-7
days to over come the cold. Turmeric was also
used in Punjab and Rajasthan for cold. This
finding is in the line with finding of Jain et al.
(1997).

Medicinal plants used for Tonsillitis

It can be observed from Table 2 that
leaves of Eucalyptus (Eucalyptus globules) tree
were useful to cure tonsillitis. Leaves of
Eucalyptus (7 to 8) are burned and the fumes
were inhaled by the patient every night before
going to bed for 5-6 days. Scientific validation
indicates that the leaves of Eucalyptus are
having expectorant property, which helps to
bring out the mucus; antiseptic property prevents infection and anodyne property that is effective in reducing pain. It also has febrifuge property, which reduces body temperature if any.

It is clear from the table, that Carrots (Daucus carota) locally known as Gajar were also used in Maharashtra for the same purpose. The sufferer can consume carrots as such. After scientific validation, it was clear that Carrots are having thermogenic property that generates heat and provides relief. Its expectorant property helps to bring out mucus and the vulnerary property promotes healing of wounds.

Castor (Ricinus communis) locally known as Erand was another plant used by the patients suffering from tonsillitis. Its scientific validation illustrates that leaves of Castor are having emollient property that is useful for soothing the throat. Anti-inflammatory property reduces inflammation and thermogenic property generates heat and provides relief. Five to six leaves of Castor were crushed to extract juice, which was consumed with one glass of hot cow milk every night before going to sleep for three days.

Table 2 also shows that Cardamom (Elettaria cardamomum) locally known as Villachi was used to get relief from tonsillitis. Scientific validation clarifies its pharmacological status that its expectorant character helps to bring out the mucus, alyteric property controls infection. Cardamom root or seed (2gm) was grinded with one betel leaf to form the paste, which was consumed once a day for 5 days to get relief from tonsillitis.

It is revealed from the table 3 that leaves of Tulsi (Ocimum tenuiflorum) were used as a 'household' remedy for sore throat. Its scientific validation indicates that the expectorant property of Tulsi helps to vomit out the mucus. Its alyteric property protects from the infection and demulcent property soothes the throat. Tulsi leaves (6-7) were crushed to extract juice. This juice was given with honey to the patient for 2-3 times a day. This method is also followed in Assam for the same problem.

Chebulic i.e. Hirda (Terminalia chebula) is one of the fruit that was used to get relief from sore throat. Its scientific validation shows that Hirda has anti-inflammatory character, which reduces swelling. Its anti-septic property prevents infection. Further it was noticed that fruit is having vulnerary property, which heals wounds and it contains febrifuge property which allays or reduces pain. Fruit of Hirda was roasted in ghee and then it was grinded into powder. One teaspoon of this powder was mixed in glass of water and given to the patient twice a day for one week. Chebulic is also used for the same purpose in Haryana.

Table 3 also reveals that Kachnar i.e. Apta (Bauhinia variegate) plant's root and bark were used for getting relief from sore throat. Its pharmacological status shows that it has anti-inflammatory character, which controls the inflammations. It also has vulnerary property that is useful in healing the wounds and the property i.e. depurative, purifies the blood. Root or bark of Apta was rubbed to make a fine powder. Half teaspoon of powder was added to a glass of water and was used for gargling 2-3 times a day till the condition of the patient improves. Kachnar is also used in Uttarachal and Punjab.

CONCLUSION

Leaves of Eucalyptus, whole plant of Prickly chaff flower are useful to get relief from cough, and leaves of Tulsi and root of turmeric are useful to cure cold. Where as leaves of Eucalyptus, roots of Carrot, leaves of Castor and seed and root of Cardamom are useful in tonsillitis. While leaves of Tulsi, fruits of Hirda and root and bark of Apta are useful for the patient suffering from sore throat.
It can be concluded that indigenous knowledge of rural community is having scientific base. It is necessary that the knowledge about the medicinal plants, which is not known to and used by the villagers needs to be imparted to them and efforts need to be made to increase the area under the medicinal plants used for getting relief from many respiratory disorders by the rural people.

REFERENCES