Ethnobotanical Study of Utilization of Medicinal Plant for Diabetics in the Tribal Peoples of Parvathamalai Hills, Tiruvannamalai, India

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ABSTRACT

Ethnomedicinal field surveys were conducted in several places of Parvathamalai hills of Thiruvannamalai district. The ethnic groups have very rich tradition of herbal medicines used in the treatment of various ailments. The ethnomedicinal information was collected on the basis of interview and field studies with local healers. Medicinal plants were collected and identified with help from indigenous healers. Such medicines have been shown to have significant healing power, either in their natural state or as the source of new products processed by them. Our study is mainly concentrated with plants used in relation to cure of diabetes. In our report, the part/parts of plants used, scientific name, Vernacular names and Family names of the collected plants are also given in this report.

Keywords: Medicinal plants, Diabetes, Parvathamalai, Thiruvannamalai, Ethnomedicinal Ethnobotanical Study, Medicinal plants, Diabetes, Plant for Diabetics, Tribal Peoples, Parvathamalai, Thiruvannamalai, Ethnomedicinal

1. INTRODUCTION

In the Rural India depends on medicinal plants for their primary healthcare due to poverty and interaction of modern medicine The Sidha are very effective particularly in rural Tamil Nadu. In particularly the treatment of ailments in rural peoples are more effective.
In spite of modern medicines, Village populations are still practicing the art of herbal medicine. The knowledge of the use of medicinal plants and their properties was transmitted from generation to generation. In rural India’s medicine systems like Ayurveda and Sidha are depend either on plant materials or their derivatives for treating human also. More than 1,300 species were recognized as source of raw materials for Ayurvedic formulations. The documentation of traditional knowledge on use of medicinal plants has provided important information for new drugs and much more hidden thesaurus. There are 35% of drugs in modern pharmacopoeia were derived from plants and many others were synthetic analogues built on prototype compounds isolated from plants.

The ethnobotanical property and primary health care system and medicinal plants were also the alternate source of income for the underprivileged communities, hence critical understanding and rebuilding of such communities has become imperative to strengthen their livelihood.

Diabetes mellitus is a metabolic disease characterized by high blood glucose level resulting from defects in insulin secretion. It is a chronic disorder that affects the metabolism of carbohydrates, fats, proteins and electrolytes in the body, leading to severe complications which are classified into acute, sub-acute and chronic. Increase in the incidence of diabetes has become a very common problem in our society. It is a challenge to developing countries like India to successfully combat this disorder. Diabetes is a very serious disease, if left unchecked. It can bring serious consequences including death. Fortunately, it is a disease that can be managed. In the present study in focused to know the traditional medicinal plants wealth that the rural communities of Parvathamalai for utilizing the treatment of diabetes plants from the Parvathamalai hills.

2. METHODOLOGY OF THE STUDY

Parvathamalai is located near to Thenmathimangalam village, which is 20 kms from Polur in Thiruvannamalai District, Tamil Nadu. Polur is 35kms from Thiruvannamalai. This hill is 3500 feet high from the sea level. On the top of the hill, Lord Mallikarjunaswamy temple is located, which is believed to be 2000 years old. This hill is full of herbal plants. There is another route from Kadaladi, to reach Parvathamalai, which is shorter and when compared to Thenmathimagalam route. Thenmathimagalam route is lengthy but easier to reach the top of Parvathamalai. It was nearby cities of Tiruvannamalai, Polur and Chengam of 12°26'11" north and 78°58'19" east Coordinates. Its protect and conserve the medicinal plant in the hill from Thiruvannamalai district of Tamil Nadu, India.

2. 1.Collection of Data

The data were collected in relation with the study was surveyed during December 2014 to June 2015 among the format areas of Parvathamalai to collect from related the information was widened diagonally during the rainy season. The information on medicinal uses of the indigenous plants has been described after gathering it from the rural communities. Information’s from thee experienced peoples, traditional herbal medicine utilizers of local herbals from the collected information.
The information about plants and their local names parts of plant used for preparation of drug and mode of administration were documented in the field survey.

Randomly people were selected of 75 men, 38 women were interviewed in addition to direct plant observation and identification was done with the help plant utilizers, a structured feedback form was used to draw information from the resource persons using standard methods, based on the flora Nasir and Ali standard methods were followed with regard for collection of plant materials, during herbarium mounting preparation and preservation of plant. The collected ethno botanical data were tabulated with plant name along with family, local name, parts used, methods of preparation and utility.

3. RESULT OF THE STUDY

In this article study focused mainly on medicinal plant for diabetic uses is reported by the rural communities from shrouding villages for their medicinal uses. The general results of the ethnobotanical survey conducted during December 2014 to June 2015.

In this article investigation 19 plants are used for the treatment of diabetes. Among all the species, Andrographis paniculata, Azadirachta indica, Moringa oleifera, Cassia auriculata, Ocimum sanctum, Brassica juncea, are commonly by the local people for the treatment of diabetes. These medicinal plants were mostly useful in local people for their treatment of diabetes. The phytochemical obtained from some of these plants effectiveness.

4. DISCUSSION

The present study was conducted to investigate the use of traditional medicinal plants in treatment of by the people of Javadhu hills. It was observed that 19 traditional medicinal plants were used by the local people for the treatment of diabetes. The plant parts such as seed, rhizome, leaves and root were used by the local people. The efficacy of these ethnomedicinal plants needs to be subjected to pharmacological validation. Some antidiabetic plants may exert their action. The study highlighted the central role of traditional herbal medicine for the treatment of diabetes in Parvathamalai hills. Ethnobotanical survey is most useful for scientists, research scholars and scientific companies for further studies on isolation and identification of active compounds, which can be formulated into antidiabetic drugs. Isolated drugs can use for diabetic patients.

Table 1. Medicinal plants used for the treatment of Anti-diabetic by local people.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Plant</th>
<th>Botanic Name</th>
<th>Family</th>
<th>Parts used</th>
<th>Mode of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aaduthinnappalai</td>
<td>Aristolochia bracteolate</td>
<td>Aristolochiaceae</td>
<td>Leaves</td>
<td>Leaf juice is taken orally to treatment of diabetes.</td>
</tr>
<tr>
<td>2.</td>
<td>Aalamaram</td>
<td>Ficus benghalensis</td>
<td>Moraceae</td>
<td>Bark</td>
<td>Bark decoction is used for diabetes</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Scientific Name</td>
<td>Family</td>
<td>Plant Part</td>
<td>Use for Diabetes</td>
</tr>
<tr>
<td>-----</td>
<td>---------------</td>
<td>---------------------</td>
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<td>------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3.</td>
<td>Aarakkerai</td>
<td>Marsilea minuta</td>
<td>Marsileaceae</td>
<td>Leaves</td>
<td>Leaf juice is used for diabetes.</td>
</tr>
<tr>
<td>4.</td>
<td>Adhatoda</td>
<td>Adhatoda vasica</td>
<td>Acanthacrae</td>
<td>Leaves</td>
<td>Leaf juice from this plant used for diabetes.</td>
</tr>
<tr>
<td>5.</td>
<td>Amman pacharisi</td>
<td>Euphorbia hirta</td>
<td>Euphorbiaceae</td>
<td>Leaves</td>
<td>Leaf juice is taken orally for treatment of diabetes.</td>
</tr>
<tr>
<td>6.</td>
<td>Atthi</td>
<td>Ficus racemosa</td>
<td>Moraceae</td>
<td>Root</td>
<td>Root decoction is taken orally to cure diabetes.</td>
</tr>
<tr>
<td>7.</td>
<td>Avaram</td>
<td>Cassia auriculata</td>
<td>Caesalpinacea</td>
<td>Flower</td>
<td>Daily three or four flower are taken regularly.</td>
</tr>
<tr>
<td>8.</td>
<td>Karsalamkanni</td>
<td>Eclipta alba</td>
<td>Asteraceae</td>
<td>Leaves</td>
<td>Leaf is used for the treatment of Diabetes.</td>
</tr>
<tr>
<td>9.</td>
<td>Kilaneli</td>
<td>Phyllanthus amarus</td>
<td>Euphorbiaceae</td>
<td>Leaves</td>
<td>Leaf juice is taken orally to treat diabetes.</td>
</tr>
<tr>
<td>10.</td>
<td>Koovai</td>
<td>Coccinia grandis</td>
<td>Cucurbitaceae</td>
<td>Fruit</td>
<td>Fruits are used for the treatment of diabetes.</td>
</tr>
<tr>
<td>11.</td>
<td>Malai vembu</td>
<td>Melia azedarach</td>
<td>Meliaceae</td>
<td>Seed</td>
<td>Seeds are used for the treatment of diabetes.</td>
</tr>
<tr>
<td>12.</td>
<td>Nathachuri</td>
<td>Spermacoce hispida</td>
<td>Rubiaceae</td>
<td>Leaves</td>
<td>The powered leaves are taken twice daily.</td>
</tr>
<tr>
<td>13.</td>
<td>Naval</td>
<td>Eugenia jambolana</td>
<td>Myrtaceae</td>
<td>Seed</td>
<td>Early morning seeded powered is taken to cure diabetes.</td>
</tr>
<tr>
<td>14.</td>
<td>Nila vembu</td>
<td>Andrographis paniculata</td>
<td>Acanthaceae</td>
<td>Leaves</td>
<td>The juice of the leaves used for diabetes.</td>
</tr>
<tr>
<td>15.</td>
<td>Nittiyakalyani</td>
<td>Vinca rosea</td>
<td>Apocynaceae</td>
<td>Leaves</td>
<td>Leaf juice is taken orally to treat diabetes.</td>
</tr>
<tr>
<td>16.</td>
<td>Tulsi</td>
<td>Ocimum sanctum</td>
<td>Lamiaceae</td>
<td>Leaves</td>
<td>Early morning a pinch of leaf is taken to treat diabetes.</td>
</tr>
<tr>
<td>17.</td>
<td>Veempu</td>
<td>Azadirachta indica</td>
<td>Meliaceae</td>
<td>Leaves</td>
<td>Powdered leaves are used for diabetes.</td>
</tr>
<tr>
<td>18.</td>
<td>Vellaruku</td>
<td>Enicostemma littorale</td>
<td>Gentianaceae</td>
<td>Leaves</td>
<td>The powered leaves are used for diabetes.</td>
</tr>
<tr>
<td>19.</td>
<td>Vilmam</td>
<td>Aegle marmelos</td>
<td>Rutaceae</td>
<td>Leaves</td>
<td>The dried and powdered leaves are used for diabetes.</td>
</tr>
<tr>
<td>20.</td>
<td>Venthayan</td>
<td>Trigonella foenum graecum</td>
<td>Fabaceae</td>
<td>Fruit</td>
<td>The dried fruit is used to reduce obesity and blood sugar.</td>
</tr>
</tbody>
</table>
PLATE 1. Morphological view of Plants.

*Aristolochia bracteolate*

*Ficus benghalensis*
Marsilea minuta

Adhatoda vasica
Euphorbia hirta

Ficus racemosa
Cassia auriculata

Eclipta alba
Phyllanthus amarus

Coccinia grandis
Melia azedarach

Spermacoce hispida
Eugenia jambolana

Andrographis paniculata
Vinca rosea

Ocimum sanctum
Azadirachta indica

Enicostemma littorale
5. CONCLUSION

The English medicines are able to cure the diabetes as soon as possible with some side effects. So in order to avoid these problems we have use some other alternative medicines like herbal medicine. The herbal medicines are also able to cure the diabetes without creating any side effects.

Reference


