



# **ETHNOBOTANICAL STUDY ON UTILIZATION OF MEDICINAL PLANT FOR DIABETICS IN THE TRIBAL PEOPLES OF ARUNAGIRIMANGALAM, TIRUVANNAMALI, 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, Arunagirimangalam, Thiruvannamalai, Ethnomedicinal

## 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[1-6]. 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[7-10]. 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 [11]. 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[12]. It is a challenge to developing countries like India to successfully combat this disorder. Diabetes is a very serious disease, if left unchecked[13,14]. 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.

## METHODOLOGY OF THE STUDY

Parvathamalai is located near to Arunagirimangalam village, which is 18 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 Arunagirimangalam village, which is shorter and when compared to Thenmathimagalam route. Arunagirimangalam 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.

## Collection of Data

The data were collected in relation with the study was surveyed during December 2023 to June 2024 among the format areas of Arunagirimangalam 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 utilizere 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 150 men, 80 women were interviewed in addition to direct plant observation and identification was done with the help plant utilizere, 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.

## RESULT OF THE STUDY

In this article study focused mainly on medicinal plant for diabetic uses is reported by the rural communities from shrouding Arunagirimangalam villages for their medicinal uses. The general results of the ethnobotanical survey conducted during December 2023 to June 2024. In this article investigation 25 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.

## DISCUSSION

The present study was conducted to investigate the use of traditional medicinal plants in treatment of by the people of Arunagirimangalam. It was observed that 25 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.

Sl. No.	Name of the Plant	Botanic Name	Family	Parts used	Mode of action
1	Aaduthinnappalai	<i>Aristolochia bracteolata</i>	Aristolochiaceae	Leaves	Leaf juice is taken orally to treatment

					of diabetes.
2	Aalamaram	Ficus benghalensis	Moraceae	Bark	Bark decoction is used for diabetes
3	Aarakkerai	Marsilea minuta	Marsileaceae	Leaves	Leaf juice is used for diabetes.
4	Adhatoda	Adhatoda vasica	Acanthacrae	Leaves	Leaf juice from this plant used for diabetes.
5	Amman pacharisi	Euphorbia hirta	Euphorbiacea e	Leaves	Leaf juice is take orally for treatment of diabetes
6	Atthi	Ficus racemosa	Moraceae	Root	Root decoction is taken orally to cure diabetes.
7	Avaram	Cassia auriculata	Caesalpinacea	Flower	Daily three or four flower are taken regularly
8	Karsalamkanni	Eclipta alba	Asteraceae	Leaves	Leaf is used for the treatment of Diabetes
9	Kilanelli	Phyllanthus amarus	Euphorbiacea e	Leaves	Leaf juice is taken orally to treat diabetes.
10	Koovai	Coccinia grandis	Cucurbitaceae	fruit	Fruits are used for the treatment of diabetes.
11	Malai vembu	Melia azedarach	Meliaceae	Seed	Seeds are used for the treatment of diabetes.
12	Nathachuri	Spermacoce hispida	Rubiaceae	Leaves	The powered leaves are taken twice daily.
13	Naval	Eugenia jambolana	Myrtaceae	seed	Early morning seeded powered is taken to cure

					diabetes.
14	Nilavembu	Andrographis paniculata	Acanthaceae	Leaves	The juice of the leaves used for diabetes.
15	Nittiyakalyani	Vinca rosea	Apocynaceae	Leaves	Leaf juice is taken orally to treat diabetes.
16	Tulsi	Ocimum sanctum	Lamiaceae	Leaves	Early morning a pinch of leaf is taken to treat diabetes.
17	Veempu	Azadirachta indica	Meliaceae	Leaves	Powdered leaves are used for diabetes.
18	Vellaruku	Enicostemma littorale	Gentianaceae	Leaves	The powered leaves are used for diabetes.
19	Vilvam	Aegle marmelos	Rutaceae	Leaves	The dried and powdered leaves are used for diabetes.
20	Venthayan	Trigonella foenum graecum	Fabaceae	fruit	The dried fruit is used to reduce obesity and blood sugar
21	Kuppaimeni	Acalypha indica L	Euphorbiacea	leaf	Scabies, Ring worm,
22	Thhalikeerai	Ipomoea sepiaria Roxb.	Convovula ceae	leaf	Cold,Cough, Asthma.

## 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.

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