International Journal of Scientific Research in Science and Technology
Print ISSN: 2395-6011 | Online ISSN: 2395-602X (www.ijsrst.com)
doi : https://doi.org/10.32628/IJSRST229457

# Documentation of Wild Plants Used by Traditional Healers in Basavakalyan, Dist Bidar, Karnataka

**Dr. Latadevi S. Karikal, Pruthviraj C. Bedjargi**
Sharanabasveshwar College of Science, Kalaburagi, Karnataka, India

**Article Info**
Volume 9, Issue 4
Page Number : 538-544

**Publication Issue**
July-August 2022

**Article History**
Accepted : 05 August 2022
Published : 22 August 2022

ABSTRACT

The following research is concerned with the evaluation of medicinal plants found in Southern India concentrating on the region Basavakalyan of Bidar district. Thus, a total of 37 medicinal plants have been found and their medicinal properties have been identified that cure several primary health problems. Thus the curing properties of the plants have been identified by usingdifferent parts of the plants. A result based discussion has been done to link the results with current facts. A conclusive discussion has been made further identifying that there are 2000 herbal plants in South India which can be used for medicinal purposes.

**Keywords :** Herbal plants, ethnobotany, realism philosophy, inductive approach.

## I. INTRODUCTION

Plants are one of the main sources of herbal medicines and have been in use in herbal care for a considerable amount of time. Despite modern medical improvements several geographical areas still adhere to the traditional use of herbs for medical purposes and for healing operations. Thus, wild edible plants have been in use for such scientific purposes for a long time. Ethnobotany, can be considered as the study of the culture of people in specific regions making use of indigenous plants (Fs.fed.us, 2022). In this case a research has been made on the use of indigenous plants of Basavakalyan of Bidar district, Karnataka. Documentation has been made for the proposed topic to understand the use of the plants in traditional healing operations.

## II. METHODS AND MATERIAL

Methodological consideration of a research concerns the intricacies of the research operations along with the process determination of the research. This research methodology answers the questions regarding the whereabouts and other process related questions of the research. In this case for a proper methodological concern, the process, place and materials of research has been discussed.

### Research philosophy

As per philosophical concern, realism based philosophy deals with development of research processes with real life scenarios and facts. The

findings of the research are based on evaluation finding and evaluation of native plants and their usage. Thus a realism philosophy is best considered.

### Research approach

Research approach concerns the process through which the data is collected and evaluated (Walter and Ophir, 2019). An **inductive approach** has been considered and facts and theories will be developed based on the findings.

### Research design:

A **descriptive research design** has been accounted for in this research. The descriptive design will help with detailed evaluation of the findings and will also help in understanding the variables involved in the operations.

### Research location

The location chosen for the research is BasavakalyanBidar district of Karnataka. It is a part of Indian Deccan Plateau and is situated at the elevation of 673-570 meters from the sea level. As per geographical coordination it is situated at latitude of 17.35 and 18.25 N and a longitude of 76.42 and 77.39 E. the research has been conducted in places including Tripuranth, Pratapur, Talbhog, Kohinoor, Chandakapur and Chitta.

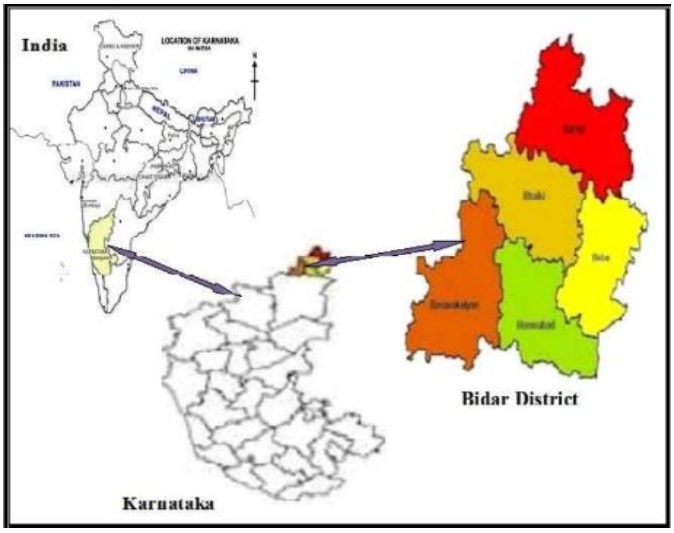


**Figure 1 :** Location of the research, Bidar district of Karnataka
(Source: Researchgate.net, 2022)

### Research materials

The materials used in this case are materials related to botanical sample collection.

### Degree of research

The degree of research conductance has been limited to plants that have medicinal value and are edible to the local population. Their characteristics have been analyzed and availability has been identified to understand their value.

## III. Results

Searching for medicinal plants in the region a total of 37 different plants were found which have medicinal value. The plants with their medicinal properties and parts used for this purpose have been considered below.

| Sl. No. | Local Name | Scientific Name | Used for | Parts used |
|---|---|---|---|---|
| 1 | Tumbari | *Diosporusmeloxylon* | Constipation prevention | Leaves |
| 2 | Eenaji | *Strichnuspotatorum* | Nutritious | Seeds |
| 3 | Karineri | *Aristolochiaindica* | Prevent seizures, immune system | Root |
| 4 | Dangadiballi | *Cocculushirsutes* | Cold, cough and fever, stone problem | Leaves |
| 5 | Phulari | *Dodonaeaviscosa* | Joint pain | Leaves |
| 6 | Ghuluguppa | *Crotalaria juncea* | Wounds and Joint pain | Bark, root, leaves |
| 7 | Sitaphal | *Annona squamosa* | Fever, pain, skin and respiratory illness | Seeds |
| 8 | Ratanpurush | *Hybanthusenneaspermus* | Nutrition, Urinary infection and | Bark, root, leaves |

| | | | | |
|---|---|---|---|---|
| | | | sterility | |
| 9 | Bevinamara | *Azadirachtaindica* | Anti-inflammatory, antifungal | Barks, leaves |
| 10 | Karehannu | *Carissaspinarum* | Typhoid, Fever | Root, bark |
| 11 | Kalmegh | *Andrographispaniculata* | Joindis, diabitis | Leaves |
| 12 | Hali beru | *HemidesmusIndicus* | Diaphoretic, Diuretic, blood purifier | Root |
| 13 | Hoogasa | *Tridax procumbence* | For high blood pressure, diarrhea, malaria, dysentery, | Leaves, Flower |
| 14 | AdaviAvare | *Cassia auriculata* | For diabetes and eye infection | Leaves, bark,flowers |
| 15 | Tandrali | *Gymnosporiaspinosa* | Anti-inflammatory, antifungal | Root, stem and leaves |
| 16 | Thumbe/Bilighatage | *Leucas aspera* | Paralysis,Typhoid | Leaves,Flowers |
| 17 | Vatvate | *Triumfettarhomboidei* | Diarrhea, asthma and inflammation, urine burning | Leaves |
| 18 | Harital | *Gloriosa superba* | Snakebite, cholera | Leaves |
| 19 | Lolesara | *Aloevera* | Skin treatments | Leaves |
| 20 | DoddaKalli | *Opuntiaficus-indica* | For diabetes, high cholesterol, hangovers and obesity | Fruit and stem |
| 21 | Aadumuttadagida | *Adathodavesica* | Asthma and fever | Leaves |
| 22 | Shankhapushpa | *Tephrosia purpurea* | Treatment of asthma, leprosy, ulcers. | Whole plant |
| 23 | Chaduranga | *Lantana indica* | Scorpion bite | Leaves |
| 24 | Mallikai / Chironji | *Buchanenialanzana* | Skin problems, digestion and respiration | Tree gum |
| 25 | Kakkemara | *Cassia fistula* | Migraine and joint pain | Tree gum,bark |
| 26 | Adavitulsi | *Ocimumtenuiliflorum* | Immunity booster | Leaves, stem, seeds. |
| 27 | BiliOudala | *Jatrophacurcas* | Antibacterial and tooth ache | Leaves, seeds |
| 28 | Badasabji | *Anethumgraviolense* | Immunity booster | Leaves |
| 29 | Lajavanti | *Mimosa pudica* | Dysentery, Ulcer | Leaves |
| 30 | Negginamullu | *Tribulusterrestris* | Heart problemas, dizziness | Fruit, leaves and roots |
| 31 | Lakkigida | *Vitexnigundo* | Joint pain,Paralysis and Piles | Leaves |
| 32 | Gulaganji | *Abrusprecatorius* | Cough,tooth ache | Leaves and Root |
| 33 | Khodapatre | *Gymnemasylvestre* | Fever,Diabitis | Leaves |
| 34 | Muttuga | *Butea monosperma* | Fever,Jaundice | Leaves,Flower and Fruit |
| 35 | Chakawad | *Cassia tora* | Cough,Asthama | Leaves |
| 36 | Kari Chennangi | *Cassia senna* | Elephentasis | Leaves |
| 37 | Uttaranigida | *Achyranthusaspera* | Piles | Root |

**Table 1: Medicinal plants found in Bidar district of Karnataka and their medicinal uses**

(Source: Fs.fed.us, 2022)

Following the above chart a diagram of different uses for the plants has been generated. In the proposed results, the use of the plants for the purposes of diarrhea and dysentery can be seen in the highest amount. Immunological strengthening, fever and skin related problems can be seen occurring less in amount and thus the consideration for these aspects are next to the highest. The consideration of factors such as cold, blood pressure related problems and such other aspects can be seen as the lower. Thus the usage of medicinal plants in such cases is also lowest.

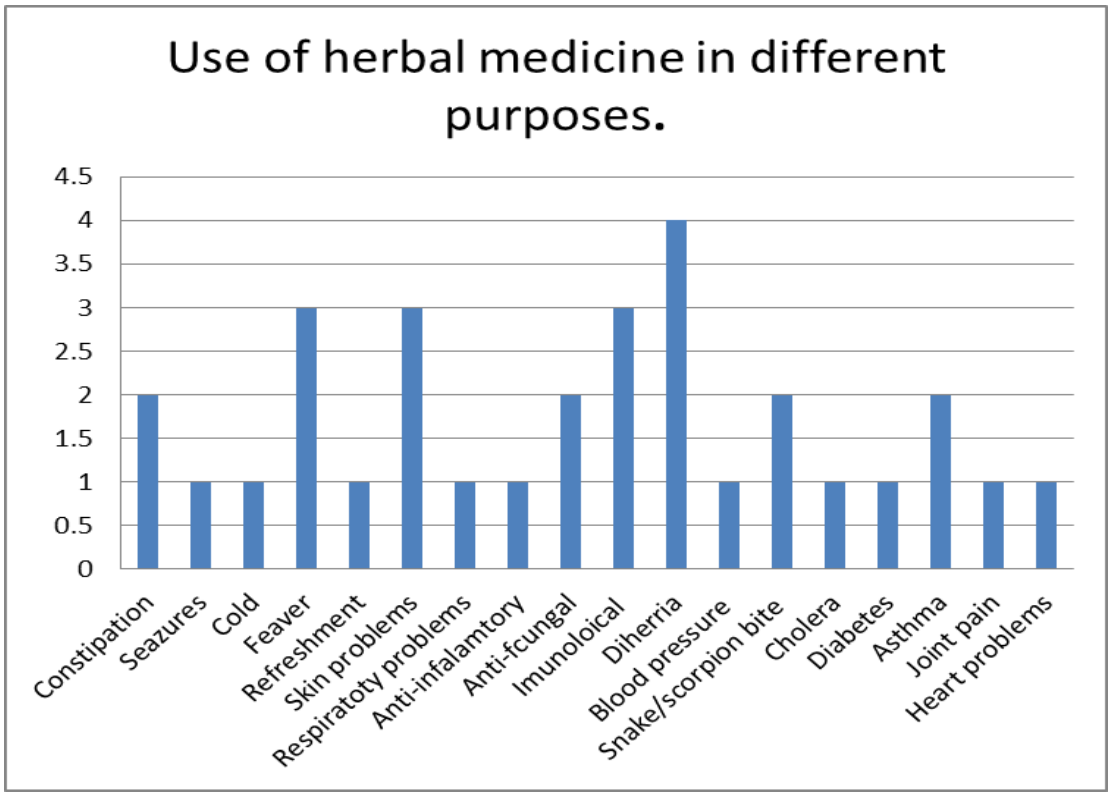


**Figure 2: Use of herbal medicine in different purposes**

(Source: MS excel)

In another consideration the degree of use of different parts of the plants and trees has been determined with a graphical representation generated from the chart. In this case it can be seen that the use of leaves from the medicinal plants is the highest with a 41% use. The use of roots is next in consideration with a 20% use rate. The use of seeds, tree gum, stems and barks are of 7% use each. The use of flowers as medicinal properties is found to be the lowest in this case.

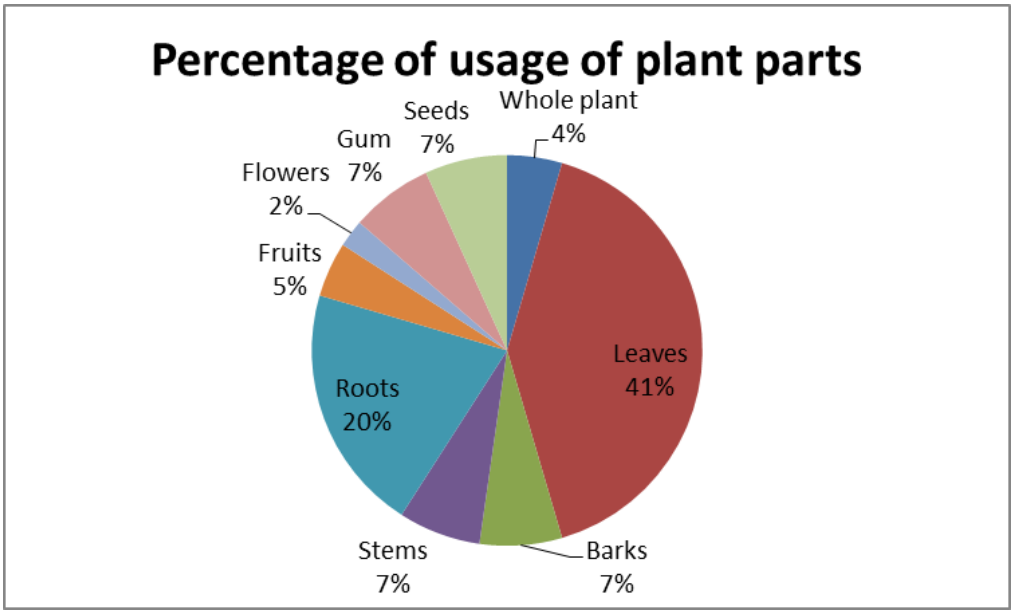


**Figure 3: Percentage of usage of plant parts**

(Source: MS Excel)

With this a comprehensive result can be generated that declares a vast amount of usage of medicinal plants in the region and it is also found that almost all parts of the plant or tree is used in this process.

In an evidence based result generation, it can be discussed that ***E. suberosa*** is one of the most well-known medicinal plants used in South India as the findings of Aye et al. (2019) suggests. The bark of the plant is used to cure dysentery. Other than that it is also used for liver troubles, anorexia, helminthic manifestations, and inflammation problems. Almost all parts of several other plants can be seen used as well.

In the south Asian countries India andChina play a major role in production and distribution of herbal medicine. The findings of Astutik et al. (2019) suggests that together they export 50% of the total global medicine and earn 45% of the global traditional medicine based earnings. Some of the major medicinal plants considered in India are bay leaves or jungle tulsi, the export of which is constantly increasing leading to an increase of income in this field.

## DISCUSSION

Ayurveda plants are significant and have less side effects in humans. They have a holistic approach and aid in proper digestion and absorption. Plant based medicine is significant in human health and this can mitigate the issues of pandemics. It is identified that India has a unique collection of plants. Estimation states that approximately 45,000 species of plant are used for medicinal purposes in India (Divya *et al.* 2020). Therefore, it is identified that plant based vaccines are evaluated in the clinical trials of Hepatitis B, influenza and so on.

| Indian Medicinal plants (South) | Virus | Effectiveness |
|---|---|---|
| *Azadirachta indica* | Dengue virus | Leaf extract (Aqueous) inhibits DEN-2 *in vivo* |
| *Hippophae rhamnoides* | Dengue virus | Leaf extract has significant anti-dengue activity |
| *Andrographis paniculata* | Dengue virus | NVK provides protection against DENV and CHIKV |
| Nilavembu kudineer (NVK) | Chikungunya virus (CHIKV) | |
| *Glycine* max (black) | Human adenovirus (type 1) | Inhibits human ADV-1 in dose dependant manner |
| *Ficus religiosa* | Human rhino virus (HRV) & Respiratory syncytial virus (RSV) | Bark extract endowed with antivirus activity against HRV & RSV |
| *Sesbania grandiflora* | Herpes simplex virus | Extract possess strong antiviral against HSV |
| *Carissa edulis* | Herpes simplex virus | Exhibits anti HSV-1&2 *invitro* and *in vivo* strongly |
| *Achyranthus aspera* | Herpes simplex virus | Inhibits earlier stages of HSV multiplications |
| *Guazuma ulmifolia Lam* | Polio virus | Extracts inhibits polio replications |
| *Punica granatum* L | Human herpes virus-3 | Phytochemical extract exhibits potential anti viral activity |
| *Phyllanthus amarus* | Human immuno deficiency virus | Inhibits HIV replication |
| | Hepatitis B virus | Plant extract had lost HBV antigen surface |
| *Avicennia marina* | Hepatitis B virus | Inhibits HBV antigen |
| *Terminalia bellerica* | HIV-1 | Plant extract against HIV-1 |
| | Pseudo viruses | |
| *Canthium coromandelicum* | HIV | Leaf extract control HIV infections |
| *Moringa oleifera* | HIV | Leaves used to inhibit viral replication |
| | Epstein bar virus (EBV) | Leaves and seeds inhibits activity against EBV activation |

**Figure 4: List of south Indian medicinal plants**

(Source: Divya *et al.,* 2020)

Medicinal plants have been used in the treatment of various types of disease since ancient times. According to Ojha *et al.* (2020), AYUSH is another traditional Indian health care system and this is considered as a great knowledge based in the traditional medicine. This is identified that nearly 70-80% of the world wide population focuses on traditional medicinal systems for primary health care. Medicinal plants have an important contribution in primary health care during ancient times (Krupa *et al.* 2019). This is observed by traditional herbal practitioners and local people who use folk medicines formulating their preparations by several methods: raw plant materials (25%), juice (21%), powder (10%) and so on.

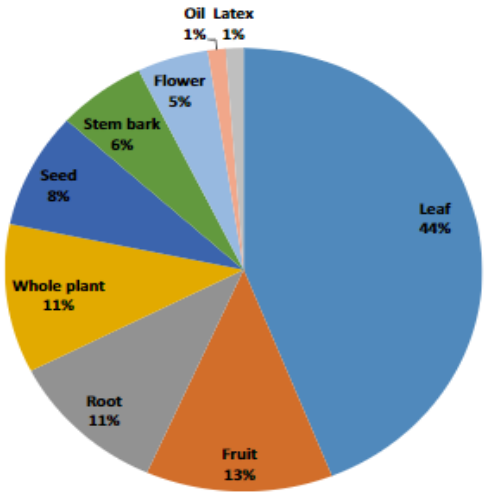


**Figure 5: Percentage of plant parts used in preparation of folk medicine**

(Source: Krupa *et al.* 2019)

Secondary metabolites are the crucial factors for getting natural products that are developed into medicine. Alkaloids, steroids, flavonoids, cyanogen glycosides are frequently found metabolites from the plants (Boy et al. 2018). Therefore, plant based bioactive metabolites may be extracted through the conventional or modern method.

## IV. CONCLUSION

Based on the proposed consideration of the research it can be concluded that India has a huge amount of traditional medicine based consideration, the art of which is being kept alive most effectively. In current considerations, Southern India is expected to have about 2000 known medicinal species among which only 37 have been identified in this research. In an additional consideration, almost all the parts of the plants have been proven useful in medicinal properties and thus the use of almost all the parts can also be seen in the results (Ncbi.nlm.nih.gov, 2022). This can be used not only for herbal treatment but also forprofit generation as well.

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**Cite this article as :**

Dr. Latadevi S. Karikal, Pruthviraj C. Bedjargi, "Documentation of Wild Plants Used by Traditional Healers in Basavakalyan, Dist Bidar, Karnataka", International Journal of Scientific Research in Science and Technology (IJSRST), Online ISSN : 2395-602X, Print ISSN : 2395-6011, Volume 9 Issue 4, pp. 538-544, July-August 2022. Available at doi : https://doi.org/10.32628/IJSRST229457

Journal URL : https://ijsrst.com/IJSRST229457