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## **MEDICINAL PLANTS DIVERSITY OF UTTARKASHI DISTRICT USED AS IMMUNITY BOOSTER AGAINST COVID-19**

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### **Abstract**

There are many benefits of Herbal Medicine, to Stabilizes hormones and metabolism, Natural healing, Strength in immune system, fewer side effects. Considering the importance of immunity boosting measures during the COVID-19, it is very important to consume supplements in the form of immune nutrients such as vitamins, Zinc and copper that will support your body to fight against the COVID-19. Application of modern technologies and methodologies in herbal medicine research and development using the accepted Western scientific and ethical standards can have a significant impact on the scientific validity, quality improvement, and standardization of herbal medicines.

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#Short Communication

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## Introduction

In Uttarkashi or Himalayan region, oldest villager has a good knowledge on the use of medicinal plants due to their constant and close association with the Nature. These people use the medicinal plants for their effectiveness, lack of conventional health care facility and cultural preferences (Canigo & Siebert, 1998) and they have attained a quite good knowledge on both valuable and adverse effects of plants. However, this huge knowledge on medicinal plants verbally passed down from their ancestral generation is slowly diminishing and deteriorating due to changing socio-economic and cultural practices (Phondani, 2010) and shifting of young generation to urban areas. Several medicinal plants have been listed as endangered, vulnerable and threatened due to commercial over exploitation, unsustainable harvesting practice and climate change (Farooqee & Saxsena, 1996; Ratha et al., 2012). The loss of traditional knowledge is irreversible just as the loss of species (Joshi et al, 2005).

Hence there is an immediate need to document the various uses of the medicinal plants used by the tribe before some of them disappear from the areas or before switching over of the tribe to modern system of medicine.

In the remote areas traditional customs and beliefs are still maintained and modern trends are yet to reach, which provide interesting scope of ethno-botanical studies (Tiwari et al., 2010a). Many works have been done on folk medicines and ethno-medicinal plants used by the inhabitants of Garhwal Himalayan region for various ailments (Singh and Bisht, 1993; Samant et al., 1996; Maikhuri et al., 1998; Tiwari et al., 2010bc; Rana et al., 2012, 2013; Ballabha et al., 2013b).

The review of literature indicates that a lot of works has been done on the diversity and utilization of ethno-medicinal plants from the different parts of India including Uttarakhand Himalaya, but a little attention has been paid on the documentation of ethno-botanical plants use by Bhotia (Jad) tribe of Uttarkashi district (Uttarakhand). Therefore, it has been aimed to document the ethno-botanical plants from the study area.

## Materials and Methods

The present study was based on intensive and extensive field made during March 2020 to August 2020 periodic field visits were made once in study area to collect detailed information about the diversity and utilization of medicinal plants.

Two basic approaches adopted to study the ethno medicinal uses of plants by the tribe.

- Firstly, interviews done based on their use of medicinal plants for various ailments were recorded.
- Secondly an inventory-based approaches, in which plant specimens were first collected and then interviewing the informant for names and uses.

Documentation of medicinal plants used by local people, literature and the Jad tribe, where general information like local name of the plant, parts used, period of collection, uses, method of administration, local name of the indicated disease and the whole treatment, were discussed and documented by interviewing independently through an open ended interview and guided dialogue techniques.

## Aims and Objective of the Study

The present study is an attempt to document

- (i) Information collection and identification of medicinal plants from study area of Uttarkashi against corona or COVID-19.
- (ii) Ethno-botanical importance and indigenous knowledge related to plants used by local community inhabiting in different villages.

After the different kinds of, data collection, interview internet knowledge following plant and their parts may reduce COVID-19 infection and increase immunity against COVID-19.

- 1) Botanical name:** *Allium stracheyi*  
Vernacular name: Jimbu (Ladu)  
Family: Amaryllidaceae  
Medicinal uses: Used in the stomach problem and leaves are also used for flavoring because of its garlic smell.
- 2) Botanical name:** *Angelica glauca*  
Vernacular name: Chora  
Family: Apiaceae  
Medicinal uses: Root powder given along with Luke warm water in abdominal pain, flatulence, cold-cough and vomiting. very useful against COVID protection And also used as condiment to enhance flavour of food and improves digestion.
- 3) Botanical name:** *Carum carvi*  
Vernacular name: Kala jeera/Chongsa jeera  
Family: Apiaceae  
Medicinal uses: Roasted powder given orally with Luke warm water in abdominal discomfort, dyspepsia, flatulence, Indigestion and infestation.
- 4) Botanical name:** *Dactylorhiza hatagirea*  
Vernacular name: Hathjadi  
Family: Orchidaceae  
Medicinal uses: Roots decoction is useful in diahrea dysentery, chronic fever against Corona and paralytic affection.
- 5) Botanical name:** *Delphinium denudatum*  
Vernacular name: Nirvishi  
Family: Ranunculaceae  
Medicinal uses: Seed oil is used in the tooth-ache, insecticide, skin eruption.

- 6) Botanical name:** *Hippophae salicifolia*  
Vernacular name: Emli/Ameel  
Family: Elaeagnaceae  
Medicinal uses: Fruit juice is boiled then this paste is used in gastric, headache and other stomach trouble and good source of Vitamin C so very useful as immunity boosting.
- 7) Botanical name:** *Hyssopus officinalis*  
Vernacular name: Lavender/Chhabra  
Family: Lamiaceae  
Medicinal uses: Tea of Hyssop flower tops is highly useful in the treatment of respiratory problems and for easing cough, sore throat and for loosening phlegm. Lavender oil is obtained from leaves used in asthma, bronchial, throat inflammation and hoarseness.
- 8) Botanical name:** *Picrorhiza kurroa*  
Vernacular name: Kutki  
Family: Scrophulariaceae  
Medicinal uses: It is used in the chronic fever, corona fever, skin disorder, and diabetes.
- 9) Botanical name:** *Saussurea costus*  
Vernacular name: kut/kuth  
Family: Asteraceae  
Medicinal uses: Root decoction taken empty stomach used in treatment of various ailments, like asthma, inflammatory diseases, ulcer and stomach problem.
- 10) Botanical name:** *Saussurea ovalata*  
Vernacular name: Brahma-kamal  
Family: Asteraceae  
Habitat: Rocky slopes  
Habit: Herb  
Medicinal uses: Whole plant is treated as sacred plant apart from this it has medicinal value but not in general tribal practice. The entire plant is crushed and juice is given as liver tonic, urinary disorder and infection, it is bitter in taste. The flower rhizome or root is used for treatment of bone ache, intestinal ailments, cough/cold, and headache.

**11) Botanical Name:**

Vernacular name:

Family:

Habitat:

Habit:

Genus:

Medicinal Uses:

***Curcuma longa L***

Haldi or Turmeric

Zingiberaceae

Common Soil

Shrub

*Curcuma*

It possess 95% possess the properties like antioxidant, anti-inflammatory, anti-platelet, cholesterol-lowering antibacterial, antiviral and anti-fungal effects. It contains a mixture of powerful antioxidant phytonutrients known as Curcuminoids. Curcumin 95% inhibits microbe growth.

**12) Botanical name:**

Vernacular name:

Family:

Habitat:

Habit:

Medicinal uses:

***Tinospora cordifolia***

Giloy

Menispermaceae

Slopes

Creep

Tinospora cordifolia is used for immunity boosting during COVID and also useful for diabetes, high cholesterol, allergic rhinitis (hay fever), upset stomach, gout, lymphoma and other cancers, rheumatoid arthritis (RA), hepatitis, peptic ulcer disease (PUD), fever, gonorrhea, syphilis, and to boost the immune system.

**13) Botanical name:**

Vernacular name:

Family:

Habitat:

Habit:

Medicinal uses:

***Citrus lemon***

Nimbu or Lemon

Rutaceae

Xerophytic

Tree

The health benefits of lemon are attributed to its vitamin C content that boost Immunity Kill Corona, encourages weight loss, improves digestion, and acts as a breath freshener. Lemons also help with the treatment of throat infections, fever, burns, respiratory disorders, and high blood pressure.

**14) Botanical name:**

Vernacular name:

Family:

Habitat:

Habit:

Medicinal uses -

***Phyllanthus embelica***

Amla

Euphorbiaceae

Xerophytic

Tree

Emblca officinalis (Amla) is an herb which has all parts, including the fruits, used for preventative against CORONA and therapeutic purposes. It appears to be most

used for regulating glucose metabolism and cardiac health, and may also be neuroprotective.

**15) Botanical name:**

Vernacular name:

Family:

Habitat:

Habit:

Medicinal uses:

***Oscimum sanctum***

Tulsi

Lamiaceae

Mesophytic

Herb

Whole plant parts i.e leaves, stem, flower, root, seeds etc. of *Ocimum sanctum* Linn. have been recommended for the of CORONA or COVID protection and treatment of bronchitis, malaria, diarrhea, dysentery, skin disease, arthritis, eye diseases, insect bites and so on. The *O. sanctum* L. has also been suggested to possess anti-fertility, anticancer, antidiabetic, antifungal, antimicrobial, cardioprotective, analgesic, antispasmodic and adaptogenic actions.

**16) Botanical name:**

Vernacular name:

Family:

Habitat:

Habit:

Medicinal uses:

***Adhatoda vasica***

vasaca

Acanthaceae

Xerophytic

Shrub

The leaves, roots and the flowers are extensively used in indigenous medicine as a remedy for cold, cough, bronchitis and asthma. It gives unfailing relief, specially where the sputum is thick and sticky. It liquifies sputum so that it is brought up more easily. For relief in asthma, the dried leaves should be smoked.

**17) Botanical name:**

Vernacular name:

Family:

Habitat:

Habit:

Medicinal uses:

***zingiber officinale***

Adrak

Zingibraceae

Xerophytic

Herb/Plant

Ginger is commonly used for many types of nausea and vomiting. It's also used for menstrual cramps, osteoarthritis, diabetes, migraine headaches, and other conditions, but there is no good scientific evidence to support many of these uses.

**18) Botanical name:**

Vernacular name:

Family:

Habitat:

***Aloe bera***

Ghritkumari

Liliaceae

Xerophytic

Habit: Succulent plant  
**Medicinal uses:** Plant is good for irritated or inflamed skin it helps repair your skin from the most tender of wounds. Aloe vera helps to kill the CORONA virus from body surface and speed the process of healing to burns and other wounds.

**19) Botanical name:** *Cinnamomum tamala*  
 Vernacular name: Tejpatta  
 Family: Lauracea  
 Habitat: Xerophytic  
 Habit: Tree  
 Medicinal uses: Tejpatta (Indian Bay Leaf) is non-toxic and considerably safe when used in food. Its dosage less than 1 gram per day is also likely to be safe when used for therapeutic purposes. Very useful against CORONA and immunity boosting.

**20) Botanical name:** *Urtica dioica*  
 Common Name: Nettle leaf  
 Vernacular name: Kandali/Kaidi/ Sison  
 Family: Urticaceae  
 Habitat: Xerophytic  
 Habit: Herbaceous, perennial plant  
 Medicinal uses: Nettle leaf or Kandali leaf has demonstrated significant anti-inflammatory activity. it is used for the treatment of rheumatoid arthritis, treat Enlarged Prostate Symptoms and allergic rhinitis, treat Hay Fever. This plant can increase immune of human so plant is very useful for corona Virus.

**21) Botanical Name:** *Hippophae rhamnoides*  
 Common Name: Sea Buckthorn, Seaberry  
 Vernacular name: Amil, Amesh or Imli  
 Family: Elaeagnaceae  
 Habitat: Xerophytic  
 Habit: Shrub, perennial plant  
 Medicinal uses: Juice is very useful against CORONA infection and also increased oxygen level after using of these products. Very rich in vitamin C and vitamin A, they are too acid when raw for most peoples tastes, though most children seem to relish them[K]. Used for making fruit juice, it is high in vitamins and has an attractive aroma. It is being increasingly used in making fruit juices, especially when mixed with other fruits.

## **Conclusion**

It is concluded in this investigation, work on the use pattern of medicinal plants by the local community of Uttarkashi, has been documented with regards to their use as food as well as interesting therapeutic value. Various plants proved to have promising medicinal properties against CORONA. During the survey, it was noticed that older people were better knowledge due to their personal experience of using the plants for a long period of time. We got to know that local inhabitants are still dependent on local plant resources for food and medicine. But their dependence is declining gradually due to lack of confidence of younger generation on these medicinal plants and migration to urban areas, where there is increasing use of allopathic medicine for their easy availability and instant efficacy.

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