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## Ethnobotanical Survey of Surguja District with Special Reference to Plants Used by Uraon Tribe in Treatment of Respiratory Diseases

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### ABSTRACT

Surguja district lies in the northern part of Chhattisgarh state is biodiversity rich area, dominated by tribal communities. The major tribes of Surguja region are Nagesiya, Baiga, Kanwar, Panika, Korwa and Uraon. Uraon is one of the dominating populations amongst all the tribes found in Surguja. In Surguja, the tribal's are 55.4% of the total population. The total forest area in the region is 18,188.44 sq.km constitute 44% of the total area of the district. The tropical deciduous type of forest is found in Surguja. The tribal communities have very rich knowledge of plants and it is used by them for their health and livelihood security. Many plants are used by them for the treatment of various diseases like Diarrhea, Jaundice, Fever, Headache, Malaria and Typhoid, Cough and Cold, Diabetes, etc. In present study an ethno-botanical survey was carried out amongst the Uraon tribe in Surguja district for the documentation of herbal medicines used for the treatment of respiratory diseases. A total of 14 plant species were found to be used for the treatment of respiratory diseases. The drug was found to be extracted from whole plant, root, rhizome, leaves, flowers and seeds of the plant. The common drug preparation method was documented as making of plant parts in to powder and later converted in to tablets or preparing of decoction by boiling in water. The drug administration was noted to be oral with water/milk or jiggery and cost per episode was also documented.

**Keywords:** Medicinal plants; Respiratory diseases, Uraon tribes.

### 1. Introduction

The native people have exploited a variety of herbal medicines for effective curing of various diseases. The plants used and preparation and administration of drugs varies from area to area. Although the knowledge of herbal medicine is gradually vanishing, some of the traditional healers and aged tribals are still practicing plants as a herbal medicine. Modernization has exposed the human race to increased risk of bronchitis, asthma, lung cancer and various skin diseases. The faster pace of life and the need for rapid cure led to the proliferation of synthetic drugs. However, the use of synthetic drugs leads to the problems of side effects, ill effects, and complications. This has revived the herbal treatments for a large number of diseases. In India, about 2,500 plant species are used for medicinal purpose by traditional healers [1,2,3,4].

Respiratory disease is the term used for diseases related to respiratory systems. This includes diseases of the lung, pleural cavity, bronchial tubes, trachea, and upper respiratory tract and of the nerves and muscles to breath. Respiratory diseases range from mild and self-limiting such as the common cold to life-threatening such as bacterial pneumonia or pulmonary embolism. It is common and important cause of illness and death. The Uraon tribe of Surguja uses various plants for the treatment of respiratory diseases. In light of above knowledge the present study was done in Surguja district of Chhattisgarh, India to document the plants used, method of drug preparation and its administration for the treatment of Respiratory diseases by Uraon tribe of Chhattisgarh.

## 2. Materials and Methods

The study involved various steps like field study in which questionnaire was filled by the tribal's, personal interview, collection of plant specimen, preparation of herbarium and identification of plants with the help of flora was done. The study was conducted in the year 2009-2011 in 10 villages of Surguja district. The information was obtained from Baidyas, Sirhas, Gunias, knowledgeable person, experienced people, medicine men, and heads and local inhabitants of the village, who have knowledge of plants for health security. The survey was done by following the method of Jain and Singh <sup>[5]</sup>. The first hand information was recorded during the field visits to the study area. Information collected through questionnaire and personal interview on the spot was the basic source of the knowledge in the present study. Ten villages were investigated in this study using the show-and-tell/semi-structured method. Semi-structured questionnaires were used to interview the local population about their ethno botanical knowledge. Interviewees were chosen without distinction of gender. People from all age groups, except children below 18 years were interviewed for their knowledge about the uses of plant in treatment of respiratory disease. The random sampling technique was used and a total of 300 questionnaires were distributed, 30 in each village which included 15 male and 15

female. Information regarding different uses of plant, plant parts, origin, availability, and vernacular names were recorded. Informants were asked to name the plant they knew, and to reveal the uses of the respective species. Informants often accompanied with the investigators surveyed the field to collect plant material. In cases of illiterate informants, photographs and fresh plant specimens from the field were presented to them and questionnaires were filled from their responses. Information was also recorded like medicinal use of plant, plant parts used, diseases treated, modes of drug preparation and administration. Friendly chats made with teenagers and youngsters and school children, of both genders, helped a lot in collection of information from people of Uraon tribe. Adopting participatory and group interaction approach, data were further cross-checked. Surveys were also made in the wilderness along altitudinal transects reaching timber line zones, surrounding natural habitats and the agricultural areas of villages. Collected plant Species were identified by using the Floras of Haines <sup>[6]</sup> and Hooker <sup>[7]</sup>. The gathered field information was analyzed to draw a clear and updated picture of the ethno medicinal use pattern of plants for the treatment of respiratory diseases in Surguja district.

**Table 1:** Medicinal plant used by Uraon tribe in Surguja District of Chhattisgarh for the treatment of Respiratory diseases.

S.N.	Botanical name of the plan	Vernacular name of the plant	Family	Habit	Plant Part Used
1.	<i>Andrographis paniculata</i> , Linn.	Chiraita	Acanthaceae	Herb	Whole plant
2.	<i>Ocimum basilicum</i> , L.	Vantulshi	Lamiaceae	Herb	Root and Seed
3.	<i>Argemone maxicana</i> , L.	Pilikateri	Papaveraceae	Herb	Flower
4.	<i>Desmodium diffusum</i> , Dc.	Sabarhanj	Fabaceae	Herb	Root
5.	<i>Terminalia bellirica</i> , (Garten) Roxb.	Baheda	Combretaceae	Tree	Fruit/Pulp
6.	<i>Asparagus racemosus</i> , Willd.	Satavar	Liliaceae	Climber	Root
7.	<i>Bauhinia vahlii</i> Wight & Arn.	Mahul	Caesalpinaceae	Climber	Root
8.	<i>Ventilago madraspatana</i> , Gaertn.	Kewati	Rhamnaceae	Climber	Root
9.	<i>Achyranthes aspera</i> , L.	Chitchita	Amaranthaceae	Herb	Leaves
10.	<i>Dalbergia paniculata</i> , Roxb.	Dhobni	Fabaceae	Tree	Bark
11.	<i>Cassia tora</i> L.	Charota	Caesalpinaceae	Herb	Seed
12.	<i>Embllica officinalis</i> , Gaertn.	Aonla	Euphorbiaceae	Tree	Seed
13.	<i>Melia azedarach</i> , L.	Bakain	Meliaceae	Tree	Leaves
14.	<i>Zingiber cassumunar</i> , Rroxb.	Vansonthi	Zingiberaceae	Herb	Rhizome

### 3. Results and Discussions

In present study 14 plants were found to be used by the people of Uraon tribes of the 10 villages of Surguja district in treatment of respiratory diseases. Documented plants were found to belong 12 families; out of them 10 families were of dicotyledonous like Lamiaceae, Fabaceae, Rhamnaceae, Acanthaceae, Papaveraceae, Euphorbiaceae, Meliaceae, Combretaceae, Caesalpinaceae, Amaranthaceae, and 02 families Liliaceae, Zingiberaceae of monocotyledon. Out of 14 plants 7 plants were herbs 4 were trees and 3 were climbers. The plant parts used for medicine preparation were bark, flowers, rhizomes, roots, leaves, seeds, gum and whole plants. The most frequently utilized plant parts were root of *Ocimum basilicum* L., *Desmodium diffusum* Dc., *Asparagus racemosus* Willd., *Bauhinia vahlii* Wight & Arn., *Ventilago madraspatana* Gaertn plants, leaves of *Achyranthes aspera* L., *Melia azedarach* L plants, bark of *Dalbergia paniculata* Roxb plant, seeds of *Ocimum basilicum* L., *Cassia tora* L., *Emblia officinalis* Gaertn plants, whole plant of *Andrographis paniculata* Linn plant, Fruit/Pulp of *Terminalia bellirica* (Garten) Roxb plant, rhizome of *Zingiber cassumunar* Rroxb plant and flower of *Argemone mexicana* L plant. Respiratory tract infections continue to be a major health challenge worldwide especially due to the increasingly fast development of resistance to the drugs currently in use [2], Plants used for the successful treatment of respiratory diseases by the Uraon tribe of Surguja district in Chhattisgarh were similar to the plants investigated by workers like [1,3,8,9,10,11] and [12,13,14,15,16].

The study showed that by using local herb and shrub as a medicine, tribal people are not only treating the diseases but also it is very cost effective for the tribal population. The study revealed new impetus to the traditional system of healthcare. In view of the importance of traditional medicine which provides health services to 75-80% of the world population [11], it is essential to document the traditional knowledge. The drug preparation method and its administration were documented for 14 plants.

**1. *Andrographis paniculata* Linn (Chirata):-** Half cup of entire plant is boiled in two glass of water, till the quantity remains one forth. It is then strained through cloth. Half cup of this decoction is taken daily for a period of 6-7 days, gives relief from respiratory problem. The total cost of treatment is Rs 170/- episode.

**2. *Ocimum basilicum* L. (Vantulshi):-** The roots are pounded with water to prepare decoction. 1 teaspoon of this decoction is taken thrice a day up to 7 days, gives relief for respiratory problem. The total cost of treatment is Rs 175/- episode.

**(2)** The powder prepared from seeds is mixed with 2-3 year old jiggery (cane sugar) and small tablets were prepared. 1 tablet is taken daily with milk or water for 20-30 days, gives relief from respiratory problem. The total cost of treatment is Rs 150/- episode.

**3. *Argemone maxicana* L. (Pilikateri):-** Half cup of flowers is grinded and the paste obtained is mixed with jiggery (cane sugar) to prepare small tablets. One tablet is taken twice daily up to 50 days, gives relief for respiratory problem. The total cost of treatment is Rs 175/- episode.

**4. *Desmodium diffusum* Dc. (Sabarbhanj):-** 2-3 teaspoon of

grinded root powder put in one glass of water and then boiled till the quantity remains one forth. One teaspoon of decoction prepared is taken thrice daily for a period of 40 days, gives relief from respiratory problem. The total cost of treatment is Rs 175/- episode.

**5. *Terminalia bellirica*, (Garten) Roxb (Baheda):-** The fruit pulp is finely powdered. One teaspoon of powder is taken with a pinch of turmeric daily in morning and evening for 7-15 days gives relief from respiratory problem. The total cost of treatment is Rs 150/- episode.

**6. *Asparagus racemosus*, Willd. (Satavar):-** The roots are dried and grinded to powder. Two teaspoons of this powder are put in to half a glass of water and taken twice daily for a period of 40 days, gives relief from respiratory problem. The total cost of treatment is Rs 160/- episode.

**7. *Bauhinia vahlii*, Wight & Arn. (Mahul):-** Half a cup of crushed roots are put in to two glass of water and then boiled for 15-20 minutes. Two teaspoons of the prepared decoction is taken daily up to 1 month gives relief for respiratory problem. The total cost of treatment is Rs 170/- episode.

**8. *Ventilago madraspatana*, Gaertn (Kewati):-** The roots are grinded with water and two spoons of decoction prepared are taken daily in morning up to 15- 20 days, gives relief from respiratory problem. The total cost of treatment is Rs 160/- episode.

**9. *Achyranthes aspera*, L. (Chitchita):-** The leaves are grinded to prepare a paste. Three teaspoons of this paste is taken daily with honey for a period of 2-3 months, gives relief from respiratory problem. The total cost of treatment is Rs 170/- episode.

**10. *Dalbergia paniculata*, Roxb (Dhobni):-** The bark is grinded with three glass of water. It is then strained and 2-3 teaspoons of the decoction are taken daily in morning up to 1 month gives relief from respiratory problem. The total cost of treatment is Rs 150/- episode.

**11. *Cassia tora*, L. (Charota):-** The powder prepared from seeds is mixed with 2-3 year old jiggery (cane sugar) and small tablets are prepared. 1 tablet is taken daily with milk or water for 20-30 days gives relief from respiratory problem. The total cost of treatment is Rs 175/- episode.

**12. *Emblia officinalis*, Gaertn (Aonla):-** The seeds are grinded to powder. 2 to 3 teaspoons of the powder are mixed with half a cup of water and taken once daily up to 3 month gives relief from respiratory problem. The total cost of treatment is Rs 160/- episode

**13. *Melia azedarach*, L. (Bakain):-** Leaves are washed, grinded finely and juice is extracted. Half a cup of juice is taken early morning on an empty stomach 1month, gives relief for respiratory problem. The total cost of treatment is Rs 160/- episode.

**14. *Zingiber cassumunar*, Rroxb (Vansonthi):-** The rhizome is grinded and the paste is prepared and mixed with equal proportion of honey. On teaspoon is taken daily up to three days, gives relief from respiratory problem. The total cost of

treatment is Rs 160/Though presently the phenomenon of female hirsutism is the focus of medical research; little is known about the ancient concept. Ancient literature of Unani Medicine is blessed with adequate medical description of hirsutism including management <sup>16</sup>. Moreover several clinical trials have been conducted on hirsutism to evaluate the efficacy and safety of herbs for oral and topical use and revealed significant effects, but the mode of action and efficacy of these herbs are still controversial <sup>14, 5, 7, 8, 9, 10, 11</sup>. Almost all studies were not well designed and controlled. These limitations make it presently impossible to establish a conclusion regarding safe and efficacious use of herbal drugs for hirsutism. Therefore the aim of this article is to review the ancient physiological concept of hirsutism present in Unani System of Medicine in the light of available new information and to appraise the effects of herbs with an objective to update the current knowledge regarding the use of herbs for management of hirsutism.

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