STUDY OF MEDICINAL FLORA OF BASTAR REGION USED FOR CURING JAUNDICE BY LOCAL COMMUNITIES AND VAIDHYAS

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ABSTRACT

India has century’s old heritage of medicinal plants and herbal medicines for curing human illness. Medicinal plants form the only easily accessible health care alternatives for most of our population in rural and tribal areas. The knowledge acquired by local indigenous people or the tribal’s through generation shows the in-depth understanding of natural plant resources. The traditional medicine is widely used and accounts for around 40% of all health care delivered. There are several diseases on which remedy of medicinal plants is found most effective. Jaundice is one of the serious diseases of human beings in which yellow coloration of eyes, vomiting of yellowing fluid and yellowish skin is noticed as external symptoms. Many plants and minerals are being used to cure Jaundice by local Vaidhya or tribal people to cure Jaundice, there are sure herbal remedies to cure Jaundice. The present investigation aims to know the most common plants which are useful to cure Jaundice in Bastar region by local Vaidhya. The study was undertaken in Machkot forest range of Bastar region of Chhattisgarh state. The result revealed that the total of 39 plant species belonging to 18 families have been reported for treatment of Jaundice in different forms and doses. The use of these plants and plant parts to treat various illnesses is still needed by the communities because of poor socio-economic conditions, the high cost and difficult access to allopathic medicines. During the investigation following most important medicinal herbs were reported viz.; *Calotropis procera*, *Terminalia chebula*, *Terminalia bellirica*, *Azadirachta indica*, *Boerhavia diffusa* and *Raphanus sativus* to cure Jaundice by local traditional Vaidyas in different forms and doses as per traditional knowledge system given by previous generation.

Keywords: Medicinal plants, Jaundice, Vaidhya, Guniya, Sirha, Bastar, Traditional medicine, indigenous knowledge system, and Plant diversity.

Introduction

Today according to the World Health Organization (WHO), as many as 80% of the world’s population depends on traditional medicine for their primary healthcare needs. There are considerable economic benefits in the development of indigenous medicines and in the use of medicinal plants for the treatment of various diseases (Azaizeh et al., 2003). Among different ailments, Jaundice is the commonest ailments affecting the large population of the developing countries like India. During the last few decades there has been an increasing interest in the study of medicinal plants and their traditional use in different parts of the world (Rossato et al., 1999). Documenting the indigenous knowledge through traditional medicinal plants studies is not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and future (Pei, 2001).

In India, about 2500 plant species belonging to more than 1000 genera are being used in indigenous systems of medicine. Plants and plant based medicaments are the basis of many of the modern pharmaceuticals we use today for our various ailments (Atal & Kapur, 1982). There are several diseases on which remedy of medicinal plants is found most effective, the viral hepatitis was known to mankind as Kavil (Jaundice) for more than 1,200 years (Pohekar, 2018). Jaundice is one of the serious diseases of human beings in which yellow coloration of eyes, vomiting of yellowing fluid and yellowish skin is noticed as external symptoms (Bernard et al., 1996; Lamont and Isselbacher, 1973). Scientifically speaking, it is associated with abnormal high level of Bilirubin; it is the breakdown product of haemoglobin. Liver has many functions, one is to produce bile to digest fat and another one is to remove toxic chemicals/wastes like bilirubin. Jaundice occurs when there is too much bilirubin is produced in the blood. Modern therapies are too costly to treat majority of Jaundice. Herbal medicines have good values in the treatment of disorders as well as diseases. Many plants and minerals are being used to cure Jaundice by local Vaidhyas or tribal people to cure Jaundice there are sure herbal remedies to cure Jaundice.

Chhattisgarh has a rich and varied flora due to its diversified topography and variable climatic condition. About 20-25 tribes are living in isolated or in combination in
four different zones like Central, Eastern, Western, Northern and Southern zones respectively (Sinha et al., 2016). Bastar is one of the tribal regions located in the southern part of the Chhattisgarh state at the height of 2000 MSL. Bastar region is found to surround by Chhattisgarh plain (Central) zone in north, Telangana state in south, Maharashtra state in the west, Odisha state in the east. The total forest area of Bastar division is 7112 sq km, which is more than the 75% of total area of the district. Out of total population 70% are tribal like Gonds, Bhatara, Muriya, Mariya, Dandi Mariya, Abhujmariya, Dorala and Halba etc are the main tribes of Bastar and they have unique identification in the country, which constitutes 26.76% of the total tribal population of the Chhattisgarh state (Census, 2011). All the tribal have their dependence on forests resources for health security and livelihood; therefore, they have rich knowledge of plants and its utilization. This knowledge is transferred from one generation to another by oral discussion (Samy and Ignacimuthu, 1998; 2000). Rich traditional knowledge of medicinal plants amongst local people was studied by (Harsha et al., 2002; 2003 and Parinitha et al., 2005). In remote tribal villages of Bastar regions, traditional medicines are of great importance in the primary healthcare of indigenous people due to their strong faith on these systems and up to some extent the lack of sufficient and reliable health facilities and modern medicines. Hundreds of plants growing in forests are used as source of medicines; some of the plants have pharmacological properties while the others are used in indigenous medicine. Most of these plants has occupied an important place in the past and shall continue in the coming days in traditional as well as in modern medicine system.

Ayurveda is the basis and foundation of ancient medicinal system of drugs derived from plant species. In Indian Materia Medica, 2000 drugs have been extracted from 1800 plants of forest origin (Nath & Khatri, 2010). The active ingredients are found in one or more parts of the plants in varying proportions. It may be found in root, bark, stem, leaf, fruit, flower or seeds.

These plants are used by tribal either independently as crude drugs or in combination with other plants, however in both the ways it is effective against the Jaundice. This knowledge of tribal is gradually vanishing (Nath & Khatri, 2010), they comprises of one of the unique treasure and rich source of diversified ethno-botanical wealth. Therefore, the present study is an attempt to integrate the traditional indigenous knowledge of tribal communities and traditional healers of the Bastar region to cure Jaundice.

Material & Methods

The present investigation was completed in forest villages of Bastar region of Chhattisgarh state during year 2017-18. Traditional knowledge study focuses in the indigenous people are the ones who were the original inhabitants of any place and live a live of their own which is of self-sufficient type with no foreign involvement. The indigenous traditional knowledge system data was collected through individual and focus Group Discussion interviews using semi structured open ended questionnaires as per proposed in standard literature (Cotton, 1996). Information obtained through a series of interviews with traditional healers, who still practiced their indigenous system of medicine. Random sampling techniques were employed to identify potential participants and interviewed a total of 50 people (40 men and 10 women). A total of 50 individuals were interviewed during the survey including medicine men (Vaidhya/Guniya/Ojha etc.), elder villagers, plant collectors and forest dwellers etc. There were herbalist, healers and plants traders among the interviewees as well. The same plant specimens were match with different literatures to confirm the identification of plants as scientific name, vernacular name, their medicinal uses and preparations to cure Jaundice.

The Chhattisgarh, 26th state of India, was approximate 44.21% land is covered by forests (State Forest Report, 2019). The Bastar region is located in the southern part of state and situate at a highest of 2000 ft plateau from sea level. The borders of Bastar regions are Telangana and Maharashtra state in the west and Odisha state in the east. Bastar is a region of southern part of state covered by seven districts namely Kanker, Kondagaon, Narayampur, Bastar, Dantewada, Sukma and Bijapur. As per census, 2011 more than 65.93 % population of this region are tribal people like Gond, Muriya, Muriya, Dhuva, Bhatra, Abhujmariya, Dorala and Halba etc. The study area falls under the Southern Bastar Plateau agro-climatic zone of state. The study was conducted in 16 villages comes under Bastar forest division, it lies between 19° 4' 33” N latitude and 82° 1’ 36” E longitude and angle of elevation is 614.0 m.

Method of data Collection

During exploration to this area, to collect the related information, the method described by Jain, (1964) was adopted, comprised of detailed interviews with tribal and witness to the uses of plant by tribal in the villages and the information collected was analyzed and documented. A questionnaire/ schedule have been developed to document the information prevailing in the community over a period of time in periodical visits.

Knowledgeable persons of tribal communities and traditional herbal healers (Vaidhyas, Ojhas and Guniyas), were contacted and information was collected through interviews, observations and discussions held during field survey. The discussions revealed local name of species, plant part used formulation of herbal drugs used by traditional healers and tribal communities and the species were scientifically identified with their botanical names and also with the help of existing literatures. The use of their certain words and expression during interview may be helpful to understanding their belief and continuing the dialogue. Interviewer should be neutral while discussing with group or groups to avoid any conflict and the process of interview should be informal so that the person being interviewed may not feel so any middle man may also be helpful while discussing.

Results and Discussion

Most of the tribal pockets are undulating densely covered with thick forest cover and tribal are inhabited at hill tops, foot hills since last several hundreds of years. From the very beginning of human civilization man depends on nature for his food, shelter and medicine (Panigari & Murti, 1989). Since long tribal and forests are inter-windily related to each other, forests are not only the source of major and minor forest produces, but they depends much on forests for their day to day needs.
In the present investigation, 39 plant species from 22 families traditionally used in treatment of Jaundice by the tribal community of Bastar region of Chhattisgarh state have been identified and documented shows in table No. 1. The maximum number of plants used as medicine by tribal population of Bastar belongs to family *Liliaceae*. There were 6 plants found to be used for curing jaundice followed by family *Caesalpiniaceae* (4 plants), family *Euphorbiaceae* (3 plants), family *Combretaceae* (3 plants), family *Poaceae* (2 plants) and minimum plant used from the family *Brasiacaceae*, *Sapindaceae*, *Apocynaceae*, *Meliaceae*, and *Sapotaceae* etc. (1 plant) which shows in figure No.1.

Amongst the noted habitat of the plant species 37 % were tree followed by 31 % were noted of shrubs, 21 % of herbs, 8 % of climbers whereas lowest 3 % were found to be grasses plant shows in figure No. 2.

![Fig. 2 : Habitat of plant species used for curing Jaundice in Bastar Region](image)

The most frequent used plant parts were found maximum used part of plants roots (12 plants) followed by leaves (11 plants); barks (8 plants); stems (6 plants); fruits and whole plants (5 plants); rhizome (2 plants) whereas minimum used plant part noted in flower (1 plant) shows in figure No. 3. Part of the plant used, dosage, duration, restriction on intake of food etc. has been reported in present study shows in table No. 1.

![Fig. 3 : Medicinally Useful plant parts for curing Jaundice in Bastar Region](image)

The plants have been enumerated alphabetically according to their scientific name, habit, local name, family, parts used, mode of preparation and medicinal uses. Literatures on the ethno medicinal plants used to cure Jaundice by various tribal communities in India was extensively searched and reviewed. Among the reported plants there are various species of trees, shrubs and herbs. The local healers and tribal population mostly used fresh plant parts and dried plant parts are used in powdered form. These medicinal plants are used as hepatoproductive agents and do not directly cure the disease. The local tribes mainly used leaf, root, bark, rhizome, stem, fruit, seed and latex of these plants as medicine for jaundice. Among these leaves were highly utilized followed by fruit, whole plant, root seed and flower. In majority of the cases these formulation were prepared by using water and sugar. The reported plants were mostly administered into six categories as decoction, extracts, paste, juice, powder and fresh part etc. and in all the case mode of application were oral. In regard to the patient’s condition, the preparations were used more than two times daily from the week to month till the problem is cured.

In case of any illness, village people contact their local medicine practitioner to whom they call Vaidhya (Traditional herbal healer). Vaidhya is a person who has inherited the knowledge of curing various diseases from his fore fathers and others by using only plants. There is one or two such type of person live in the village community of Bastar. Traditionally, the local knowledge is transferred from one generation to other generation within family of the Vaidhya and in this way Vaidhya system survives; this is the especial & identical feature of tribal culture in the study area. The traditional herbal healing properties contain much medicine for a single ailment out of the various medicines; one is selected by the herbal healer for curing a particular disease according to symptoms and secondary effects and several plants are used in case of one disease according to their availability in the region.

The Vaidhya consider diseases as manifestation of evil spirit or to the wrath of certain divine spirits. The usual theory of disease in tribal society is that disease is caused by the breach of some taboo or by hostile spirit of dead. Sickness is the routine punishment for every lapse and crime meted out to them by these spirits (Verma *et al.*, 1993).
Whenever an epidemic breaks out, the traditional healers perform magico-religious rites for the cure. Tribal’s belief in this regard is so deep rooted that even educated tribal would not ignore the traditional healer (Sirha/Guniya). The traditional medicine men and other dignitaries still have a hold on the illiterate masses. Mahant, (2015) observed in his studied, the villager’s first preference is to seek traditional healer for treatment (75.33%) and majority of young generation do not know many plants and their medicinal values. Only few younger are followed the medicinal practices and traditional knowledge in the Bastar. A traditional method of using plants as a medicine was found to be prevalent in the study area reported by Ekka, (2013). Treatment was found to be done by the Vaidhyas, Gunias and medicine man by collecting various plants and plant parts from surrounding of the forest and use them as a medicine.

India is a veritable emporium of medicinal plants and is bestowed with rich natural wealth due to its diverse ecological conditions. Indian forests are source of a large proportion of the world’s recognized medicinal plants and constitute an enormous potential source of useful plant derived chemicals. Jain and De (1966) reported the use of some medicinal plants in the treatment of various ailments, used by various tribes of Puruliy. Wester and Yongvanit, (1995), has noted in his study literate people were found to be less knowledgeable on the use of medicinal plants as compared to illiterate ones due to modernization. Panda et al. (2017) reported Haridra, Katuki, Chiireta, Punnamada, Kiratatrika, Bhum Anamali are commonest single herb used by the herbalist and Ayurveda physician in the treatment of Jaundice and other liver disorders. Dupare, (2016), reported in his study, the traditional use of medicinal plants for preventive and creative purposes among the people from generation to generation. Several species of medicinal plants such as *Ailanthus excels* Roxb., *Cichorium intybus* L., *Echinops echinates* Roxb., *Ricinus communis* L. etc were also reported in maintaining good health by the traditional practitioners.

Sharma et al. (2016) reported in their results revealed that the ninety seven plant species belonging to 48 families are used by the people of northeast India for the treatment of Jaundice. 12 plant species namely *Andrographis panicula* (Burm.f.) Nees, *Averrhoa carambola* L., *Curcuma zedoaria* Rox., *Cuscuta reflexa* Roxb., *Eclipta alba* (L.) Hassk., *Eclipta prostrata* L., *Emblica officinalis* Gaertn., *Garcinia pedunculata* Roxb., *Momordica charantia* L., *Morinda angustifolia* Roxb. and *Phyllanthus fraternus* etc. Webster has been reported repeatedly by many worker of North East India. This study would help the future workers to select and illustrate plants enlisted for treatment of Jaundice in Bastar region of Chhattisgarh state.

India has a vast knowledge of tribal and folk medicine, which utilized around 7500 species of plants as medicine. Ayurvedic and other traditional system of Indian medicines fully depend on wild plants for preparation of drugs. Bibliography of ethnobotany (Jain and Puri, 1984) contains nearly 2000 references covering almost all the major publications in Indian as well as foreign. Sarkhel (2015) investigate the ethno medicines used in treatment of Jaundice by tribal communities in Paschim Medinipur district, West Bengal and enumerates 12 species of plants belonging to 12 families used for treatment of Jaundice by three important indigenous communities of Paschim Medinipur district- Santhals, Mundos and Lodhas.

**Lavate et al. (2015)** explores the traditional knowledge of many common medicinal plants useful to cure jaundice. They have recorded the use of 30 medicinal plants belonging to 21 families of angiosperms that can cure or reduce jaundice infection. Paul et al. (2014) in his study ethno-therapeutic remedies and also documented 27 medicinal plants that are used for healing in Jaundice in Dang district of Gujarat, India. They also report traditional healers of this region totally depend on plants for healing Jaundice. Naikade (2014) studied tribal people from Konkan region provide traditional medicines in curing Jaundice and he also report majority of the formulations are prepared in the form of decoction by local Vaidus and Bhagats. India is repository of herbal medicines & there are evidences that herbs are predominant in the treatment of various diseases for revitalizing body system from ancient civilization and also report majority of cases, extract from the whole plant were used for curing jaundice Annalakshmi et al. (2012). Abbasi et al. (2009) reported a total of 30 plant species belonging to 24 families were reported by local practitioners for the treatment of jaundice and hepatitis. In Bastar region various medicinal plants has been used traditionally for the management and treatment of Jaundice. The list of these medicinal plants, traditionally used for the treatment of Jaundice was gathered from the field survey and also from the different literatures.

The tribal depend on the plants around them which made them acquire knowledge of medicinal properties of many plants by trial and error. Consequently they became the storehouse of knowledge of many useful as well as harmful plants accumulated and enriched through generations and passed on to one another without any written documents. It must be properly documented and preserved urgently because most of the tribal are being assimilated into modern societies and the treasure of knowledge of uses of plant resources is fast disappearing (Shali Saheb et al., 2018). It is not only essential to conserve such a wealth of information found among the tribal but also enumerate and record such details and diverse information, which constitute a modern system to meet the ever increasing requirement of mankind.

### Table 1 : List of Medicinal flora used for curing Jaundice in Bastar region of Chhattisgarh State

<table>
<thead>
<tr>
<th>SN</th>
<th>Local Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Habit</th>
<th>Useful part</th>
<th>Preparation and Dosage application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adusa</td>
<td>Adhatoda Vasaca Nees.</td>
<td>Acanthaceae</td>
<td>Shrub</td>
<td>Stem, Root &amp; Bark</td>
<td>Preparation &amp; Uses: One cup full of fresh stem bark. Juice is given to the patient for the treatment of Jaundice, twice a day for one week. The root paste along with goat milk is given orally also.</td>
</tr>
<tr>
<td>2</td>
<td>Aloe</td>
<td>Aloe vera L. Burm. f.</td>
<td>Liliaceae</td>
<td>Shrub</td>
<td>Leaves</td>
<td>Preparation &amp; Uses: Fresh pulp of leaves twice daily (sure remedy than any system of medicine). The leaf sap is mixed with <em>Curcuma longa</em> Linn rhizome of root paste and cow milk is taken daily for 10 15 days twice a day</td>
</tr>
<tr>
<td>SN</td>
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<tr>
<td>3</td>
<td>Amaltas</td>
<td>Cassia fistula L.</td>
<td>Caesalpiniaceae</td>
<td>Tree</td>
<td>Fruit</td>
<td>Preparation &amp; Uses: Give its juice with equal quantity of juice of sugar cane twice a day.</td>
</tr>
<tr>
<td>4</td>
<td>Amarbel</td>
<td>Cuscuta reflexa Roxb.</td>
<td>Convolvulaceae</td>
<td>Climber</td>
<td>Stem</td>
<td>Preparation &amp; Uses: Small pieces of stem (9-10 pieces) are given twice a day for 10-15 days to recover from the jaundice.</td>
</tr>
<tr>
<td>5</td>
<td>Aonla</td>
<td>Phyllanthus emblica L.</td>
<td>Euphorbiaceae</td>
<td>Tree</td>
<td>Fruit &amp; Seed</td>
<td>Preparation &amp; Uses: dried fruit and seeds of Punica granatum L. are ground together along with sugar and made into powder, two-three teaspoons of the whole powder are dissolved in one cup of water and taken orally twice a day for three weeks. Two cure liver weakness and Jaundice. Prepare a paste of gooseberry fruit with honey. Give this paste to the patient every morning and evening.</td>
</tr>
<tr>
<td>6</td>
<td>Arand</td>
<td>Ricinus communis Linn.</td>
<td>Euphorbiaceae</td>
<td>Shrub</td>
<td>Root &amp; Leaves</td>
<td>Preparation &amp; Uses: Give 80 ml decoction of its root with 2 teaspoonful honey mixed in it. The decoction of the leaves is taken once glassful twice a day for about 2-3 weeks.</td>
</tr>
<tr>
<td>7</td>
<td>Arjun</td>
<td>Terminalia arjuna Roxb.</td>
<td>Combretaceae</td>
<td>Tree</td>
<td>Bark</td>
<td>Preparation &amp; Uses: stem bark extract are used to cure patient of jaundice</td>
</tr>
<tr>
<td>8</td>
<td>Babul</td>
<td>Acacia nilotica (L.) Wild</td>
<td>Mimosaceae</td>
<td>Tree</td>
<td>Root</td>
<td>Preparation: The above mentioned plant parts are crushed and soaked in a glass of water, and the extract is taken after half an hour. Dosage: Take one tablespoonful twice a day; morning on an empty stomach and evening after the meals. Continue this therapy for a week</td>
</tr>
<tr>
<td>9</td>
<td>Bahera</td>
<td>Terminalia bellirica Roxb.</td>
<td>Combretaceae</td>
<td>Tree</td>
<td>Fruit</td>
<td>Preparation: A mixture of Behara, Harra &amp; Aonla fruits can be given in the form of a decoction. Dosage: 20 gm of powder in a glass of water. This should be filtered and taken twice a day.</td>
</tr>
<tr>
<td>10</td>
<td>Bans</td>
<td>Dendrocalamus Strictus L.</td>
<td>Poaceae</td>
<td>Grass</td>
<td>Leaves</td>
<td>Preparation &amp; Uses: Decoction of fresh leaves or stem bark is used for bath after applying the ash of Achyranthes aspera on the body once a day for 3 days.</td>
</tr>
<tr>
<td>11</td>
<td>Bel</td>
<td>Aegle marmelos L.</td>
<td>Rutaceae</td>
<td>Tree</td>
<td>Leaves</td>
<td>Preparation &amp; Uses: 10 ml juices of fresh leaves are mixed 3 pieces of black paper taken morning and evening for 20-25 days. Leaf powder is also given along with goat milk.</td>
</tr>
<tr>
<td>12</td>
<td>Bhringraj</td>
<td>Eclipta alba Linn.</td>
<td>Asteraceae</td>
<td>Shrub</td>
<td>Whole Plant</td>
<td>Preparation &amp; Uses: paste of whole plant 20-30 gm is mixed with salt and taken once a day for 15-20 days</td>
</tr>
<tr>
<td>13</td>
<td>Bhui-Amla</td>
<td>Phyllanthus niruri L.</td>
<td>Euphorbiaceae</td>
<td>Herb</td>
<td>Root</td>
<td>Preparation &amp; Uses: Fresh roots are used for making of paste &amp; its 5-10 gm. is taken with 10 gm. of Juggary for 8-10 days.</td>
</tr>
<tr>
<td>14</td>
<td>Brahmi</td>
<td>Centella asiatica L.</td>
<td>Apioceae</td>
<td>Climber</td>
<td>Whole plant</td>
<td>Preparation: Equal portions of these plant parts are crushed and the extract is taken. Dosage: Half cup of the extract is taken twice a day, morning on an empty stomach, evening after the meals. This is continued up to a week.</td>
</tr>
<tr>
<td>15</td>
<td>Charota</td>
<td>Cassia tara Linn.</td>
<td>Caesalpiniaceae</td>
<td>Herb</td>
<td>Leaves &amp; Root</td>
<td>Preparation &amp; Uses: the fresh roots (5gm) are ground to fine powder given to patient twice a day for about one week to cure the patient.</td>
</tr>
<tr>
<td>16</td>
<td>Chirchita</td>
<td>Achyranthes aspera Linn.</td>
<td>Amaranthaceae</td>
<td>Herb</td>
<td>Root</td>
<td>Preparation &amp; Uses: Take 2-3 gm. powder of its flowers and powder of root of leadwort or turmeric powder and medar leaf. Give any of these to the patient with 50 gm. Jaggery.</td>
</tr>
<tr>
<td>17</td>
<td>Dhataki</td>
<td>Woodfordia fruticosa L.</td>
<td>Lytheraceae</td>
<td>Shrub</td>
<td>Flower &amp; Root</td>
<td>Preparation &amp; Uses: Take fresh extract or infusions of whole plant along with sugar/honey are given to patient. Root extract is fever, cold cough, as blood purifier, in acidity and jaundice. Infusions of whole plant along with sugar juice are given to patient.</td>
</tr>
<tr>
<td>18</td>
<td>Giloy</td>
<td>Tinospora cordifolia (Willd.) Hook</td>
<td>Liliaceae</td>
<td>Herb</td>
<td>Whole plant</td>
<td>Preparation &amp; Uses: Take fresh extract or infusions of whole plant along with sugar/honey are given to patient. Root extract is fever, cold cough, as blood purifier, in acidity and jaundice. Infusions of whole plant along with sugar juice are given to patient.</td>
</tr>
<tr>
<td>19</td>
<td>Ginger</td>
<td>Zingiber officinale</td>
<td>Zingibaraceae</td>
<td>Herb</td>
<td>Rhizome</td>
<td>Preparation: Mixed 1/2 tsp ginger juice and 1 tsp each of mint juice and lime juice. Dosage: The mixture is taken after a span of few hours.</td>
</tr>
<tr>
<td>20</td>
<td>Haldi</td>
<td>Curcuma longa Linn.</td>
<td>Zingiberaceae</td>
<td>Shrub</td>
<td>Rhizome</td>
<td>Preparation &amp; Uses: paste of rhizome (15-25gm) is mixed with cow milk and taken once daily for 12-15 days</td>
</tr>
<tr>
<td>21</td>
<td>Harra</td>
<td>Terminalia chebula Retz.</td>
<td>Combretaceae</td>
<td>Tree</td>
<td>Fruit</td>
<td>Preparation: A mixture of Harra, Behara &amp; Aonla fruits can be given in the form of a decoction. Dosage: 20 gm of powder in a glass of water. This should be filtered and taken twice a day.</td>
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### Study of medicinal flora of bastar region used for curing jaundice by local communities and Vaidhyas

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</tr>
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</table>
| 22 | Imli       | *Tamarindus indica* L. | Caesalpinaceae | Tree | Fruit & Root | Preparation: Roots and fruit of *Tamarindus indica* and fruit of *Prunus domestica* and are soaked in water for a night.  
Dosage: One cup of this extract is given to the patient for two to three weeks. |
| 23 | Kalihari   | *Gloriosa superba* L. | Liliaceae | Shrub | Stem | Preparation & Uses: Garland of fresh tuber pieces put around the neck of patient for 10-15 days to treat the patient. |
| 24 | Kalmegh    | *Andrographis paniculata* (Burn.f.) Wall, Ex Nees | Acanthaceae | Shrub | Whole plant | Preparation & Uses: leaves and young twigs are crushed and made in paste, 20-30 gm paste taken three times daily after meal for 2-3 weeks. |
| 25 | Kashiphal  | *Lagenaria siceraria* | Cucurbitaceae | Climber | Fruit | Preparation & Uses: Bitter fruit pulp when given for three days at the dose of three gm. Daily, Jaundice may cure. |
| 27 | Khair      | *Acacia catechu* Wild. | Mimosaceae | Tree | Bark | Preparation & Dosage: Bark (1-3gm) is mixed with water and the extract is taken two times daily until cured |
| 28 | Kusum     | *Scheleichera oleosa* | Sapindaceae | Tree | Bark | Preparation: The abovementioned plant part is crushed and soaked in a glass of water, and the extract is taken after half an hour.  
Dosage: Take one tablespoonful twice a day; morning on an empty stomach and evening after the meals. Continue this therapy for a week. |
| 29 | Madar      | *Calotropis procera* | Apocynaceae | Shrub | Stem | Preparation & Uses: The stem or cane form of garland or neckless. |
| 30 | Mahua      | *Madhuca indica* J.F. Gmel. | Sapotaceae | Tree | Stem bark | Preparation & Uses: Decoction of fresh leaves or stem bark is used for bath after applying the ash of *Achyranthes aspera* on the body once a day for 3 days. |
| 31 | Mehandi    | *Lawsonia inermis* Linn. Syn. L. alba | Lythraceae | Shrub | Bark &Leaves | Bark and leaves are crushed together and boiled in water. Decoction is taken two times daily after meal for 2-4 weeks. |
| 32 | Mooli      | *Raphanus sativus* Linn. | Brassicaceae | Herb | Leaves, Fleshy part | Preparation: Decoction of its leaves & roots is recommended for the treatment of Jaundice.  
Dosage: Fleshy part and leaves is used powder form |
| 33 | Neem       | *Azadiarchta indica* A. Juss. | Meliaceae | Tree | Leaves & Bark | Preparation & Uses: Fresh mature air dried leaves is boiled in water and 5 ml extract is taken once daily for 15-20 days. Extract of bark mixed with sunth (*Zingiber officinale* rose) and honey also used. Mixture of same quantity of leaf powder, fruit powder, stem bark powder and flowers powder, taken one spoonful with one spoonful ghee and honey (1/2 spoon) twice a day for one month. |
| 34 | Punarnava  | *Boerhavia diffusa* Linn. | Nyctaginaceae | Herb | Whole plant | Preparation & Uses: Fleshy root is tied tightly on to the neck for about a week. It is a very beneficial medicine for jaundice gives 10-20 gm. Juice or its whole plant with powder mixed. |
| 35 | Sadabahar  | *Asparagus racemosa* Wild. | Liliaceae | Shrub | Root | Preparation & Uses: the decoction obtained from the root has been used to cure Jaundice |
| 36 | Safed musli| *Chlorophytum tuberosum* | Liliaceae | Herb | Root | Preparation: 2-3 fleshy roots are crushed and boiled with milk and drank. 3 hours later, two fleshy roots of shevur are crushed and soaked in a glass of water for about 10 min. and the extract is taken and drunk.  
Dosage: This procedure is done morning and evening for up to a week. |
| 37 | Satavar    | *Asparagus racemosus* Wild. | Liliaceae | Climber | Root | Preparation: 2-3 fleshy roots are crushed and boiled with milk and drank. 3 hours later, two fleshy roots of shevur are crushed and soaked in a glass of water for about 10 min. and the extract is taken and drunk.  
Dosage: This procedure is done morning and evening for up to a week. |
| 38 | Sugar cane | *Sachrum officinarum* L. | Poaceae | Grass | Stem | Preparation & Uses: Keep a piece of sugarcane outside the house in open over night so that it gets covered with day. Next day morning, after brushing the teeth suck the sugar cane. |
| 39 | Tulsi      | *Ocimum sanctum* L. | Lamiaceae | Herb | Leaves | Preparation & Uses: Leaves extract with equal volume of honey, 2 tsp is taken twice a day. Pure leaves juice is also taken orally. |
Conclusion

It has been realized that medicinal herbs are going to play an important role in future material. It is anticipated that some significant conclusions would emerge from the ongoing study. So, this paper will provide adequate view to academics and researchers working on the promotion and restoration of Indigenous Knowledge Systems (IKS) of tribal communities of India and world. Therefore it is necessary that suitable requirements are needed in order to protect the traditional knowledge in particular area with reference to medicinal plant utilization and it was found that traditional ethnomedicine still persists among the tribal’s in District Bastar of Chhattisgarh.

The intensive survey was conducted during 2017-18 and information related to medicinal plants traditionally used in Jaundice was collected from age-old people, headmen, traditional doctors, age old women and the person having a thorough knowledge of traditional medicinal plants practices to cure Jaundice in the study area. The information gathered was confirmed by different local or tribal people, Village people and ethnic groups in different places of investigation and also in previous literatures and books. In Jaundice, medicinal plants are important and doses are prescribed by Vaidhyas with combination of plant parts with juice, extracts, infusion, and decoction, etc.

The use of these plants to treat various illnesses is still needed by the communities, because of poor socio-economic conditions, the high cost and a difficult access to allopathic medicines. The majority of the reported species are wild and rare. These demand an urgent attention to conserve such vital medicines. The majority of the reported species are wild and rare. These demand an urgent attention to conserve such vital medicines.

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