Herbal Remedies of Arthritis as documented from Santhals of Burdwan District, West Bengal, India

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Abstract

Since the traditional therapeutics have proved their worth in enrichment of modern systems with patient-friendly herbal medicines there is a need to document them from the tribal communities of India, a country with great cultural heritage. Since arthritis is a critical refractory disease, present author took the initiative to document 11 herbal remedies used against it by the tribals of Burdwan District of West Bengal state in India. Further therapeutic investigation and clinical proving of these ethnomedicines are likely to hand over mankind with patient friendly medicines against this rather incurable disease.

Citation:

1. Introduction

1.1 Study site
The present work is primarily based on thorough field survey since 2009 in the study sites located in and around Durgapur Forest Range of Burdwan district which is one of the Western districts of West Bengal, a state of India. It covers an area of 7024 sq km within 22°56’ to 23°53’ North latitudes and from 86°48’ to 88°25’ East longitudes. Lying within Burdwan Division, the district is bounded on the north by Dumka (Jharkhand), Birbhum and Murshidabad, on the east by Nadia, on the south by Hooghly, Bankura and Purulia (West Bengal) and on the west by Dhanbad (Jharkhand) districts. The study site was mainly inhabited by Santhals, often spelled as Santals, who are one of the major forest dwelling tribes of Eastern India with Proto-Australoid ancestry.

1.2 Soil and climate
The soil is lateritic and the temperature ranges from 20.1° to 44° C during summer and from 6.0° to 26.2° C during winter. Annual rainfall is more or less 1500 mm.

1.3 Tribal community
According to the 2011 Census Scheduled Tribes (mainly Santhals) constitute 6.41 percentages of the total population i.e. 6895514 of district. The occupations of these tribes are mainly gathering of different non-timber forest produce (NTFP) and cultivation.

1.4 Issue addressed
Arthritis, one of the most painful diseases, is an autoimmune disease that causes chronic inflammation of the joints. The modern medicines have been able to show temporary palliative actions. So for permanent cure against this disease, documentation of knowledge on war-footing from traditional practitioners has become one of the thrust areas of the present day scientific research. The present work, an effort in this direction, concerns with the documentation of folk herbal remedies used by Santhals against arthritis in Burdwan district of West Bengal state in India, a country of Asia.

2. Materials and Methods
Field trips were carried out during the period from 2009 to 2011 in different tribal hamlets of Durgapur Forest Range of Burdwan District, West Bengal, a state in India to collect and document first hand information from primary...
sources following standard ethnobotanical methodology (Rao, 1989). For documentation, herbal healers and knowledgeable informants of Santhal community were interviewed. The information collected from them was cross checked and then recorded along with the scientific, vernacular and family names of the concerned plants and their parts used methods of preparation of medicine, mode of use and dosage (Table 1). During field studies the species were provisionally identified and their identification was confirmed with the help of authentic specimens and literature (Prain, 1903; Guha Bakshi, 1984; Bennet, 1987). Voucher specimens have been preserved in the Ecotaxonomy laboratory of Botany Department of Burdwan University.

3. Results

The present work documents 12 plants species of angiosperms which are used in 11 herbal preparations prescribed against arthritis (Table 1). Among these herbal remedies ten are prepared from single species while the remaining one is prepared from more than one species. Medicines are prepared by the herbalists at home by drying, boiling, crushing, mixing the materials and making pastes, decoction or ointments. In each of as many as five cases (Table 1) the herbal medicine is used as analgesics that are rubbed onto the skin to produce pain relief. In case of three effective medicines the application is external in form of a smear only and the remaining three medicines are taken internally to get relief from arthritic pain.

Table 1: Herbal remedies used by the Santhals of Burdwan district (West Bengal, India) for treatment of arthritis

<table>
<thead>
<tr>
<th>Name of the plant(s) used in medicine</th>
<th>Vernacular name of the plant</th>
<th>Method of preparation</th>
<th>Mode of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailanthus excelsa Roxb. (Simarubaceae)</td>
<td>Maha nimbi</td>
<td>Leaf decoction and infusion are used against rheumatism.</td>
<td>Applied on affected part 2 times a day for 15 days.</td>
</tr>
<tr>
<td>Atylosia scarabaeoides (L.) Benth. (Fabaceae)</td>
<td>Ban kurhti Matkom</td>
<td>Roots are dried and then powdered, boiled with oil prepare from Mahua seeds to finally get a paste for local application.</td>
<td>Smear on the painful swollen joints, once a day for 10-15 days.</td>
</tr>
<tr>
<td>Madhuca indica J.F. Gmel. (Sapotaceae)</td>
<td>Ban Kurti Matkom</td>
<td>Roots are dried and then powdered, boiled with oil prepare from Mahua seeds to finally get a paste for local application.</td>
<td>Smear on the painful swollen joints, once a day for 10-15 days.</td>
</tr>
<tr>
<td>Calotropis gigantea (L.) R. Brown (Asclepiadaceae)</td>
<td>Akana, Aak</td>
<td>Dusts of dried leaves is boiled with mustard oil</td>
<td>Rubbed on painful joints periodically till cure.</td>
</tr>
<tr>
<td>Cassia fistula L. (Caesalpinaceae)</td>
<td>Paprai</td>
<td>Tender or immature fruits and leaves pounded together and juice extracted from them boiled in mustard oil</td>
<td>Rubbed over the affected part 2-3 times a day.</td>
</tr>
<tr>
<td>Hemidesmus indicus (L.) R. Brown (Periplocaceae)</td>
<td>Dudhilata</td>
<td>Dried leaf powder given to treat rheumatic pain.</td>
<td>Half a teaspoon taken in empty stomach for a week or up to 2 months.</td>
</tr>
<tr>
<td>Lantana camara L. (Verbenaceae)</td>
<td>Putus</td>
<td>Shoot decoction boiled in mustard oil and then used as an ointment</td>
<td>Oil massaged 2-3 times a day, continued till recovery.</td>
</tr>
<tr>
<td>Ochna obtusata De. (Ochnaceae)</td>
<td>Champlabaha</td>
<td>Paste of stem-bark locally applied to treat joint pain</td>
<td>Applied externally 2-4 times a day for one month.</td>
</tr>
<tr>
<td>Plumbago zeylanica L. (Plumbaginaceae)</td>
<td>Chitra</td>
<td>Root crushed and processed in mustard oil for local application.</td>
<td>Gently massaged over the affected joints till cure.</td>
</tr>
<tr>
<td>Pongamia pinnata (L.) Pierre (Fabaceae)</td>
<td>Kusrinj</td>
<td>Juice extracted from green fruits mixed with mustard oil.</td>
<td>Externally applied as an analgesic by rubbing on the painful swollen joints 1-2 times a day for 5-7 days.</td>
</tr>
<tr>
<td>Portulaca oleracea L. (Portulacaceae)</td>
<td>Luniya arak</td>
<td>Tender shoot juice used in rheumatism.</td>
<td>One teaspoon full with salt in empty stomach for 7 days.</td>
</tr>
<tr>
<td>Smilax zeylanica L. (Smilacaceae)</td>
<td>Aushbaha</td>
<td>Root paste boiled in ghee.</td>
<td>Two teaspoons full in empty stomach for 2 times a day for 5-7 days.</td>
</tr>
</tbody>
</table>
5. Discussion

The present work is in conformity with the objective of earlier work (Mukherjee and Bouri, 2011) on non-timber forest products i.e. NTFPs including herbal drugs of the same forested area, i.e. Durgapur Forest Range, Burdwan District, India. As many as 11 herbal remedies prepared from 12 plant species against arthritis have been documented here which remained unattended in publications on medicinal plants of the area (Hotwani and Mukherjee 2005 a & b). The information presented in this work was thoroughly compared with some important publications (Anon.,1948-76; Desai et al., 2005; Jain, 1991; Chanda and Mukherjee, 2011) to evaluate the novelty of the herbal remedies thus recorded (Table 1). The medicine prepared by Santhals from *Hemidesmus indicus* is likely to contribute novel and effective medicine against arthritis. Arthritis is a very painful disease of the joints which is dreaded by people all over the world. Since the available pain killers temporarily give relief and collaterally produce adverse effects on health, there is an immediate need to address the issue without any side effect. As such the remedies documented in this work, at least the ones which are locally applied, can be used safely for palliation in place of the pain-killers. The authors also feel that further pharmacological screening and therapeutic proving of the concerned plants especially, *Hemidesmus indicus*, and the ethnomedicines prepared there from, are necessary for validation and discovery of ideal medicines against arthritis.

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Reference


Prain D., 1903. Bengal Plants, Calcutta, West Bengal.