Revitalization of Local Health Tradition in order to enhance the health security of rural community

SAMBANDH, ORISSA
Enhance health security of rural communities by establishment of contemporary relevance of local health tradition
• Capacity Building on local healers need
• Improving local knowledge and practices
• Local control of development options
• Identification of development niches
• Retention of benefits in the local area
- Exchange & learning between cultures on local health practices
- Training and capacity building
- Stimulating local & regional economies
- Securing intellectual property rights
- Enhancing local knowledge transfer systems

Contd...
• Systematic participatory documentation of local health traditions related to home remedies prevalent at the household level
• Rapid assessment of documented traditional health practices for the prioritized health conditions through desk research and literature review.

Major Intervention
• Design and implementation of participatory clinical trails for high priority health practices in local community.
• Clinical assessment of raw drugs and traditional method of preparation to ensure the safety and efficacy of the investigational drugs.
Activities conducted so far...

- Awareness generation
- Training to village health volunteers (242 nos.)
- Training to households (Woman incharge) in 50 villages
- Preparation of community Knowledge Health Register (CHKR) in 30 villages.
- Promotion of local health tradition in 5 Schools of Muniguda Block.
- Supporting Capacity building activities of folk healers association through promotion of LHP
- Knowledge information centre
- Development of IEC materials
• Promotion via a participatory process of sound LHPs in the community, in order to enhance health security of rural communities.
• Undertaking pharmacological studies on high priority local health practices

Cont...
• Preparation of community health knowledge register-inventory of medicinal plants and traditional knowledge for due protection from under Bio-diversity Act-2002

• Inclusion of LHP in schools of conservation and transmission of traditional knowledge and conservation of the knowledge resource with the involvement of the students.

Cont....
1. 1.78% women are trend, out of them 65% are using LHT to cater primary health services.

2. Enhancement of their knowledge on the importance of local health tradition.

3. 242 village health volunteers (VHV) are trend on sign, symptoms, diagnosis of prioritized diseases and home remedies with food and regimen for the same diseases.

Result-1
• 26 no of community knowledge register prepared for conservation & promotion of LHP.
• 635 no of local health practices documented from 139 knowledge holders.
• 87 types of diseases LHPs documented using 326 no of herbs, 8no minerals and 6 types animals.
• Documented, assessed and promoted 10 prioritized diseases and its LHPs using 14 medicinal plants.

Result 2
• 278 no of school children trend on conservation and promotion of LHT and Medicinal plants under Green health clubs.
• Capacity building of the 56 healers on documentation of LHP, Value addition, standardization and good collection practices of medicinal plants.
• Local healers association declared as a Block level Swastya Sahayak Dal.

Result -3
• Established Knowledge information centre based on LHP & medicinal plants related.

• Ethno-Medico-Botanical Research on Malaria.
Ethno-Medico-Botanical Research on Malaria
Objectives
To evaluate region specific herbal preventive formulations commonly used by local communities/traditional healers in malaria prone region of Muniguda Block, Raidada District.

ASSESSMENT WORKSHOP
Prioritization of Health Problems

Effective Remedies

Desk Reasearch

Rapid Assessment Workshops

Identification of Effective Remedies

Participatory Clinical Research

Promotion through KHG Programs

Promotion of the effective Remedies

RAPID ASSESSMENT OF LHTS (RALHT)
<table>
<thead>
<tr>
<th>Sl no.</th>
<th>Botanical name</th>
<th>Local name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Andrographis paniculata</em></td>
<td>Bhuinimbo, Kalibahu</td>
</tr>
<tr>
<td>2</td>
<td><em>Annona squamosa</em></td>
<td>Atta, Neua</td>
</tr>
<tr>
<td>3</td>
<td><em>Asparagus racemosus</em></td>
<td>Satabari</td>
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<tr>
<td>4</td>
<td><em>Azadirachta indica</em></td>
<td>Nimba</td>
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<tr>
<td>5</td>
<td><em>Cajanus cajan</em></td>
<td>Harad dali</td>
</tr>
<tr>
<td>6</td>
<td><em>Citrus aurantifolia</em></td>
<td>Kaghzinimbu</td>
</tr>
<tr>
<td>7</td>
<td><em>Cyperus rotundus</em></td>
<td>Mutha</td>
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<tr>
<td>8</td>
<td><em>Moringa oleifera</em></td>
<td>Sajana</td>
</tr>
<tr>
<td>9</td>
<td><em>Nyctanthes arbor-tristis</em></td>
<td>Gangaseoli, Saparum</td>
</tr>
</tbody>
</table>

**LIST OF PLANTS USED IN FORMULATIONS**
<table>
<thead>
<tr>
<th>Sl. no</th>
<th>Botanical name</th>
<th>Local name</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td><em>Ocimum sanctum</em></td>
<td>Tulsi</td>
</tr>
<tr>
<td>11</td>
<td><em>Oroxylum indicum</em></td>
<td>Bhaluksupti</td>
</tr>
<tr>
<td>12</td>
<td><em>Phyllanthus emblica</em></td>
<td>Amla</td>
</tr>
<tr>
<td>13</td>
<td><em>Piper longum</em></td>
<td>Pippali</td>
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<tr>
<td>14</td>
<td><em>Piper nigrum</em></td>
<td>Golmaricha</td>
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<tr>
<td>15</td>
<td><em>Pongamia pinnata</em></td>
<td>Karanj</td>
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<tr>
<td>16</td>
<td><em>Streblus asper</em></td>
<td>Dahinya</td>
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<tr>
<td>17</td>
<td><em>Tinospora cordifolia</em></td>
<td>Guduchi</td>
</tr>
<tr>
<td>18</td>
<td><em>Zingiber officinale</em></td>
<td>Sunthi</td>
</tr>
</tbody>
</table>
Frequency of plant use

- *Andrographis paniculata* (Acanthaceae)
- Bhuinimbo, Kalibahu, Chiraita
- Leaf is one of the ingredients in 15 of total 43 formulations
- Frequency of use in malaria – 34.9 percent
- Popularity of use: Popular among rural population
Frequency of plant use

- Azadirachta indica A. Juss. (Meliaceae)
- Vernacular names: Nimbo, Neem
- Leaf is one of the ingredients in 14 of total 43 formulations
- Frequency of use in malaria – 32.5 percent
- Popularity of use: Frequently Popular among rural population
- *Andrographis paniculata* (bhuinimbo, Kalibahu)
- It is used in 15 of the 43 formulations for malaria Muniguda block of Raigada district
- Plant is used in malaria from Mayurbhanj, Bhadrak, Dhenkanal, Kalahandi and Balangir districts (Girach & Aminuddin, 2000).
- It is one of the popular remedy in malaria in Andhra pradesh (Rao & Sreeramulu, 1986) and Bihar (Goel et al; 1984).
- Wider acceptability as antimalarial drug
**Ethnomedicinal Assessment**

- *Nyctanthes arbor-tristis* (Gangaseoli, Saprum)
- It is used in 32 of the 43 formulations for malaria in Muniguda block of Raigada district.
- Use of this species in malaria is popular throughout the state (Girach et al; 1994).
- The plant is reported for the treatment of malaria from many parts of India (Jain, 1991).
Azadirachta indica (Nimbo, Neem)

It is used in 14 of the 43 formulations for malaria in Muniguda block of Raigada district.

It is reported for its use in Malaria from Balasore and Bhadrak districts (Girach & Aminuddin, 2000).

Leaf and flowers are reported from different parts of India for the treatment of malaria (Jain, 1991).

Ethnomedicinal Assessment
• *Ocimum sanctum* (Tulsi)
  • It is used in 05 of the 43 formulations for malaria in Muniguda block of Raigada district.
  • It is used as one of the ingredients of a composite formulation (Bhuinimbo + nimbo) in the treatment of malaria in Balasore district (Girach & Aminuddin, 2000).
  • Leaf decoction is used in the treatment of malaria by natives of Sagar district in Madhya Pradesh (Jain, 1991).

**Ethnomedical Assessment**
Ayurvedic Assessment

- *Andrographis paniculata* (Bhunimbo, Kalmegh)
- Guna: Laghu, Ruksha
- Rasa: Tikta
- Virya: Ushna
- Vipaka: Katu
- The plant is prescribed in malaria (Dravyaguna Vijnana, PV Sharma, 2006).
- Decoction of the plant with guduchi, lal chandan, and Sunthi is used to treat bisamajwara (Bhabaprakash Nighantu)
• **Azadirachta indica** (Nimb, Pichumard, Arisht)
  • Guna: Laghu
  • Rasa: Tikta, Kasay
  • Virya: Sheet
  • Vipaka: Katu
  • Because of its Tikta rasa properties it acts as an antipyretic and especially to check bisamajwara (intermittent fever).
  • decoction of stem bark of the plant with patola patra, triphala, drakshya, nagaramotha, and kutaja is used to treat bisamajwara (Bhabaprakash Nighantu).

**Ayurvedic Assessment**
- **Nyctanthes arboristris** (Parijat, Shefalika)
- Guna: Laghu, Ruksha
- Rasa: Tikta
- Virya: Ushna
- Vipaka: Katu

Because of its Tikta rasa properties it acts as an antipyretic

**Ayurvedic Assessment**
- **Ocimum sanctum** (Tulsi)
- Guna: Laghu, Ruksha
- Rasa: Tikta
- Virya: Ushna
- Vipaka: Katu
- Juice of its leaves if taken with powder of black pepper it cures bisamajwara (Bhabaprakash Nighantu)
- The drug is used in bisama jwara (Dravya guna vigyan, P.V. Sharma)

**Ayurvedic Assessment**
• **Andrographis paniculata**
  (Qasbuzzarira, Chirata)
• Hot, dry and bitter
• Antipyretic, anthelmintic, blood purifier
• useful in alleviating simple and intermittent fever due to its bitter principle (Kabeeruddin, 1959)
• *Azadirachta indica* (Nib, Neem)
• Bitter, astringent; cold. Dry
• Antipyretic, anthelmintic, blood purifier
• useful in alleviating simple and intermittent fever due to its bitter principle (Kabeeruddin, 1959)
- **Nyctanthes arbor-tristis** (Singar har)
- Hot, dry, bitter
- The plant has been reported in the treatment of intermittent fevers and other fevers that come at regular intervals
• *Ocimum sanctum* (Tulsi)
• Cold, Dry, aromatic
• Antipyretic, expectorant; useful in alleviating simple, intermittent fever and fever due to cold (Kabeeruddin, 1959).

Unani Assessment
Andrographis paniculata (Burm.f.) Wall ex Nees (Acanthaceae)

Chemical constituents
- Diterpenes: four
- neoandrographolide, deoxyandrographolide

Biological activity
- neoandrographolide, deoxyandrographolide exhibited antiplasmodial activity reported (Mishra et al; 1992).
- Antimalarial activity reported (Mishra et al; 2009).
Azadirachta indica  A. Juss (Meliaceae)

- Chemical constituents
- Quercetin, beta sitosterol and Gedunin – one of the limonoids
- Biological activity
Nyctanthes arbor-tristis L. (Oleaceae)

- Chemical constituents
  - Alkaloids, resin, glycoside and nyctanthin (Kapoor, 1990).

- Biological activity
  - Leaf extract showed 69.47 percent inhibition against *plasmodium berghei* (NK 65) *in vitro* tests (Misra et al; 1991).
**Ocimum sanctum** L. (Lamiaceae)

Chemical constituents

Ursolic acid, luteolin, eugenol, methyl eugenol, apigenin etc. reported from different extracts of the plant (Anonymous, 1987).

Biological activity


**MODERN ASSESSMENT**
If the raw drug has been traditionally used without demonstrated harm, no specific restrictive regulatory action is undertaken unless new evidence demands a revised risk-benefit assessment (Anonymous. 2005. WHO guidelines for Methodologies on research and evaluation of traditional medicine).
Methanolic extract of *Andrographis paniculata* and *Hedyotis corymbosa* were tested in vitro on chloroquine sensitive (MRC- pf-20) and resistant (MRC- pf – 303) strains of p.f. For antimalarial activity.

The extract did not show any *in vivo* toxicity.

SAFETY AND EFFICACY
- **Study area:** Badadahikhal Village of Muniguda Block of Rayagada District
- **Study design:** study group and Control group (Each Group contain 200 volunteers)

<table>
<thead>
<tr>
<th>Name of the center</th>
<th>No of camps</th>
<th>Study groups</th>
<th>Control group</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27</td>
<td>90</td>
<td>95</td>
<td>1 malaria incidence in study group and 12 in control group</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>153</td>
<td>153</td>
<td>14 malaria incidence in study group and 54 in control group</td>
</tr>
</tbody>
</table>

