Observation on Single-plant Therapy (Ekala Dravya Chikitsa) among Folk Healers of Andaman and Nicobar Islands, India

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ABSTRACT

Introduction: The collection and documentation of folklore claims of the native population of Andaman and Nicobar Islands including tribes are very essential as these claims can pave the path for new drug discovery. The concept of treating a disease by using a single plant or utilizing it as health supplements are rapidly spreading all over the world and it is widely practiced by physicians.

Objectives: This study sought to document the distinct plant species used in treatment by the native and tribes of Andaman and Nicobar Islands, India.

Materials and methods: During the year 2013 to 2016, a total of 23 periodical surveys of 75 forest beats of Andaman and Nicobar Islands were conducted and 62 local traditional folk healers were interviewed as per the questionnaire based on ethnomedicinal, survey protocol.

Observations: One hundred and forty-one folklore claims related to single-herbal remedies were registered which comprises 103 medicinal plant species used to treat 47 different diseases. Maximum numbers of species, i.e., 13 are utilized to cure abdominal pain followed by 12 species for headache and 11 species for fever.

Discussion: Among the 103 plant species, 85 species have been quoted in the texts of Ayurveda and the remaining 18 plants have been also defined as folk medicine in other literature of plant studies. However, this study highlights their utilization in common disease by the native and tribal folk healers of Andaman and Nicobar Islands.

Conclusion: This study gives immense output on the use of the individual medicinal plant in varied systemic and local diseases from the folk healers of the Andaman and Nicobar Islands. Organized and constructive information incorporated in this article may aid in conducting further pharmacological, toxicological, and clinical studies on reported claims to confirm their therapeutic efficacy and utility.

Keywords: Andaman and Nicobar, Ekala Dravya Chikitsa, Medicinal plant, Tribes.

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INTRODUCTION

An extensive reorientation is needed to gain scientific reliability for Ayurveda because it has attained an unexpected attention worldwide. Hence, there is a need to alter Ayurveda into dynamic, scientifically validated, and evidence-based medicine which takes its form from its rich knowledge base.1 On the contrary, the gradual increase in the demand for herbal medicine in the global market along with the scarcity of medicinal plant is becoming a challenge for a plant-based traditional system of medicine like Ayurveda. So there is a need for supplementary, simple, and cost-effective medicaments based on single drug.2

The concept of using only one herb for the purpose of treatment of diseases or as health supplements is very rapidly spreading all over the world. Most of the indigenous system of medicine have considered the use of the single plant as a primary aspect of treatment in various diseases. Since ancient time Vaidyas (physicians of Ayurveda) have been using a single plant to cure many diseases. Later on, this concept has been uniquely cited in Samhita and other various classical Granthas, e.g., Shunthi (Zingiber officinalis Roscoe) in Aamavata, Amalaki (Emblica officinalis Gaertn.) as Rasayana and Haritaki (Terminalia chebula Retz.) in constipation and apart from plants grains, cereals, spices, oils, ghee, honey, milk and many more are also specially mentioned in treatment.3 Even, in the present era, single herbs or plants are commonly used by physicians as well as patients as health supplements.

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There are nearly 45,000 species of both higher and lower groups of plants, among which 15,000 species belong to higher plants in our country. Due to deforestation for developmental activities such as industrialization and urbanization, the use of plants as well as plant-based incredible healing knowledge are decreasing day by day in our society. Hence, it is truly a need of the hour to preserve the pristine glory of tribal and rural people’s traditional medicine knowledge. No doubt, various government and nongovernmental organizations and individuals are working on this line and making every effort to collect and preserve this heritage. This study is a distinctive attempt in this direction for giving emphasis on documentation of single-herbal remedies practiced by the native folk healers including traditional healers of Andaman and Nicobar Islands, India.

**Materials and Methods**

**Study Area**

Andaman and Nicobar Islands are a group of islands at the juncture of the Bay of Bengal and the Andaman Sea, comprising 572 islands/islets and rocks and is situated between 6° and 14° north latitude and 92° and 94° east longitude in the Bay of Bengal. It has a total area of 8249 sq. km of which is approximately 87% or 7171 sq. km is forest. It comprises two groups, the Andaman Islands and the Nicobar Islands separated by the 10°N parallel, with the Andaman to the north of this latitude and the Nicobar to the south. According to the 2011 censuses, the total population of Andaman and Nicobar Islands is 3.81 lakhs. The folk healers of both the group of islands either Nicobarese tribes or native were systematically interviewed through survey tours.

**Data Collection**

Twenty-three periodical survey visits were made to 75 forest beats of different islands of Andaman and Nicobar Islands during 2013 to 2016. Prior permission was obtained from local authorities to conduct these surveys. Folk healers of each village were identified and an interview was conducted per the structured questionnaire that was written specifically to obtain detailed information on local health traditional. Plant specimens collected from the field were identified at the study Center and some of them were also referred to the Botanical Survey of India, Andaman and Nicobar Regional Center, Port Blair. All plant specimens were preserved in the herbarium at the Regional Research Center of Ayurveda, Port Blair, Andaman and Nicobar Islands.

**Results**

Overall 141 folklore claims were collected in which 103 single-plant species were utilized to treat 47 different ailments. The maximum numbers of claims were recorded for the Udarashoola (abdominal pain) in which 13 plant species were used followed by 12 plants in Shirahshoola (headache) and 11 plants in Jwara (fever). Further details of 103 medicinal plants comprising 141 folklore claims used for 47 ailments are mentioned along with their scientific name, family, local name, parts used, and the route of administration are presented in Table 1.

| S. no. | Botanical name, family, local name, number of claims, and accession number | Sanskrit name | Part used | Route of administration | Therapeutic preparation | Name of diseases |
|-------|-------------------------------------------------------------------------|--------------|-----------|-------------------------|------------------------|-----------------|
| 1     | Abroma augusta (L.) L.; (Alivaceae); Ulatkambal; (1); [AC844]           | Pivari       | St        | O                       | Hima (cold infusion)   | Shukradosha (spermatorrhea) |
| 2     | Abrus precatorius L.; (Malvaceae); Gunchi; (2); [AC1016]                | Gunja        | WP        | T                       | Kalka (paste)          | Sandhivata (joint pain)  |
|       |                                                                       |              | L         | O                       | Chewing of fresh leaves| Kasa and Pratishaya (cough and cold) |
| 3     | Acalypha indica L.; (Euphorbiaceae); Khujalipatti; (2); [AC1294]        | Haritmanjari | L         | T                       | Kalka                  | Alasaka (athletic foot)   |
|       |                                                                       |              | L         | T                       |                        | Mootrakucchra (dysuria)   |
| 4     | Achyranthes aspera L.; (Amaranthaceae); Kannakpech; (4); [AC1348]       | Apamarga     | St        | T                       | Dantakashta (tooth-brush) | Dantashoola (toothache)  |
|       |                                                                       |              | L         | T                       | Kalka                  | Sarpadamsha (snakebite)   |
|       |                                                                       |              | WP        | O                       | Swarasa (juice)         | Kamala (jaundice)         |
|       |                                                                       |              | WP        | T                       | Kalka                  | Sandhidvata              |
| 5     | Acorus calamus L.; (Araceae); Laniti; (1); [AC1903]                     | Vacha       | Rt        | O                       | Swarasa                | Kasa and Pratishaya (headache) |
| 6     | Adhatoda zeylanica Medic, syn. Adhatoda vasica Nees.; (Acanthaceae); Vasa; (3); [AC749] | Vasa        | L         | O                       | Swarasa                | Jwara (fever)            |
|       |                                                                       |              | L         | O                       |                        | Jwara (fever)            |
|       |                                                                       |              | Br        | O                       | Choorna (powder)       | Amlapitta (acidity)      |
|       |                                                                       |              | WP        | T                       | Kalka                  | Vrana (cut and wounds)    |
| 7     | Adiantum capillus-veneris L.; (Pteridaceae); Hanspadi; (1); [AC1880]    | Hansaraja    | Rt        | O                       | Swarasa                | Kamala                   |
| 8     | Ageratum conyzoides (L.) L.; (Asteraceae); Hawae Buti; (1); [AC1123]    | Vishamushthi |           |                         |                        |                            |

Contd…
The Single-plant Remedy among Folk Healers of Andaman and Nicobar Islands

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|--------|---------------------------------------------------------------|--------------|-----------|------------------------|------------------------|-----------------|
| 9      | Albizia lebbeck (L.) Benth.; (Mimosaceae); Koko; (1); [AC73] | Shirisha     | Fl        | O                      | Choorna               | Daurbolya (general debility) |
| 10     | Aloe vera (L.) Burm.f.; (Liliaceae); Gheekuvari; (1); [ACNA] | Grutkumari   | L         | T                      | Patramaja (leaf pulp) | Shirahshoola    |
| 11     | Alysicarpus vaginalis (L.) DC.; (Leguminosae); Chauli*; (1); [AC1600] | –            | L         | T                      | Taila (oil)           | Vidradhi (abscess) |
| 12     | Ananas comosus Merr.; (Bromiliaceae); Ananas; (1); [ACNA] | Anamnasam    | L         | O                      | Swarasa               | Udarashoola (abdominal pain) |
| 13     | Ardisia humilis Vahl.; (Convolvulaceae); Kaheo*; (2); [AC1725] | –            | Br        | O                      | Kwatha (decoction)    | Udarashoola (abdominal pain) |
| 14     | Argyreia mollis (Burm. f) Choisy; (Convolvulaceae); Samantan*; (1); [AC1842] | –            | L         | O                      | Kwatha               | Atisara (diarrhea) |
| 15     | Azadirachta indica A. Juss. (Meliaceae); Neem; (1); [AC1966] | Pichumarda   | L         | T                      | Kalka                | Suryaghati (sun allergy) |
| 16     | Borassus flabellifer L.; (Arecaceae); Lekuapatra; (1); [AC1793] | Tala         | Rtk       | O                      | Kalka                | Pada-Shotha (swelling of foot) |
| 17     | Buchanania splendens Miq.; (Anacardiaceae); Mok*; (1); [AC1259] | Latakaranja  | Sd         | O                      | Choorna               | Jwara            |
| 18     | Caesalpinia bonduc (L.) Roxb.; (Caesapiniaceae); Kat Karanj; (1); [AC89] | –            | L         | O                      | Kalka                | Ashmari (lithiatis) |
| 19     | Cajanus cajan (L.) Millsp.; (Fabaceae); Arhar daal; (1); [AC2169] | Adhaki       | L         | O                      | Kalka                | Kamala           |
| 20     | Calotropis gigantea (L.) Dryand.; (Asclepiadaceae); Akawan; (1); [AC1896] | Svetarka     | L         | T                      | Kalka                | Sandhivata       |
| 21     | Calotropis procera (Alton) Dryand.; (Asclepiadaceae); Aka; (2); [AC467] | Raktarka     | Ltk       | T                      | Kalka                | Vidradhi (abscess) |
| 22     | Cardiopermum helicacabum L.; (Sapindaceae); Kakatikta; (1); [AC470] | Kamasota     | L         | T                      | Kalka                | Udarashoola      |
| 23     | Catharanthus roseus (L) G. Don. syn. Vinca rosea L.; (Apocynaceae); Sadabahar; (1); [AC1110] | Sadampushpa  | WP        | O                      | Kwatha               | Madhumeha (diabetes) |
| 24     | Centella asiatica (L) Urb.; (Apiaceae); Mendak Bhaij; (2); [AC1987] | Mandukparni  | L         | O                      | Kalka                | Jwara            |
| 25     | Chromolaena odorata (L) RM King and H Rob. (Asteraceae); Chankookmat*; (3); [AC2151] | –            | L         | T                      | Swarasa               | Neterashoola (ocular pain) |
| 26     | Citrus limon (L) Osbeck; (Rutaceae); Nimbu; (2); [AC409] | Jambira      | Sd         | O                      | Choorna               | Vyanabala-vaishamya (hypertension) |
| 27     | Claxylon indicum (Reinw. ex Blume) Hassk.; (Euphorbiaceae); Singenro*; (3); [AC1085] | –            | L         | T                      | Swarasa               | Shiraahshooloo |
| 28     | Clerodendrum viscosum Vent. syn. Clerodendrum infortunatum L.; (Verbenaceae); Kalhoyar; (1); [AC1443] | Bhandirah    | L         | T                      | Kalka                | Shiraahshooloo |
| 29     | Coccinia indica Wight and Arn. syn. Coccinia grandis (L) Voigt; (Cucurbitaceae); Kundaru; (1); [AC2160] | Bimbi        | L         | T                      | Kalka                | Shiraahshooloo |
| 30     | Cocos nucifera L.; (Arecaceae); Narikal; (1); [AC1856] | Narikela     | Fl         | O                      | Mashi (ash)           | Arsha (piles) |

Contd…
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|--------|-------------------------------------------------------------------------------|--------------|----------|------------------------|------------------------|------------------|
| 31     | Coleus aromaticus Benth. syn. Plectranthus amboinicus (Lour.); Spreng. (Labiatae); Patta-Ajawain; (1); [AC21177] | Parnyavani | L        | O                      | Swarasa               | Udarashoola      |
| 32     | Colocasia esculenta (L.) Schott.; (Araceae); Gunia; (1); [AC450] | Aaluki | L        | T                      | Swarasa               | Shatpadidamsha (centipede bite) |
| 33     | Cordia rothii Roem. and Schult. syn. Cordia sinensis Lam.; (Boraginaceae); Tharoi; (1); [AC1829] | Shleshmataka | L | O | Swarasa | Udarshoola |
| 34     | Curcuma amada Roxb.; (Zingiberaceae); Aamahaldi; (1); [AC1908] | Amragandhi Haridra | Rh | O | Swarasa | Rajayakshma (tuberculosis) |
| 35     | Curcuma caesia Roxb.; (Zingiberaceae); Kallahaldi*; (1); [AC480] | – | Rh | O | Kalka | Arbuda (abdominal tumor) |
| 36     | Cynodon dactylon (L.) Pers.; (Poaceae); Doobghas; (3); [AC1757] | Durva | L | O | Kalka | Raktatisara (diabetes) |
| 37     | Cyperus scariosus R.Br.; (Cyperaceae); Motha; (1); [AC795] | Nagar-mustata | Rh | Inhalation | Choorna | Nasarattastra (epistaxis) |
| 38     | Datura metel L.; (Solanaceae); Dhatura; (2); [AC822] | Canaka | L | T | Kalka | Sandhiwata |
| 39     | Delonix elata (L.) Gamble.; (Fabaceae); Gulmohar; (1); [AC1019] | Siddhesvara | L | O | Kwatha | Arsha |
| 40     | Eclipta alba (L.) Hassk. syn. Eclipta prostrata (L.) L.; (Asteraceae); Chitra; (2); [AC2035] | Brungaraja | WP | O | Kalka | Shweta Pradara (leukorrhea) |
| 41     | Erythrina variegata L.; (Fabaceae); Murukku; (2); [AC1519] | Paribhadra | L | O | Swarasa | Kamala |
|        |                                                               |             | L | T | Swarasa | Kamashoola (otalgia) |
|        |                                                               |             | WP | O | Kalka | Kamala |
| 42     | Euphorbia hirta L.; (Euphorbiaceae); Duddhi; (1); [AC1636] | Dugdhika | WP | O | Kalka | Kamala |
| 43     | Euphorbia prostrata Aiton; (Euphorbiaceae); Duddhi*; (1); [AC141] | – | WP | O | Kalka | Udarashoola |
| 44     | Ficus benghalensis L.; (Moraceae); Bargad; (1); [AC201] | Nyagrodha | Fr | O | Choorna | Vandhyatva (sterility) |
| 45     | Ficus religiosa L.; (Moraceae); Pipal; (1); [AC201] | Ashvatha | L | O | Kwatha | Daha (burning sensation) |
| 46     | Ganophyllum falcatum Blume.; (Sapindaceae); Sanuk*; (2); [AC1607] | – | L | O | Swarasa | Udarashoola |
| 47     | Gliricidia sepium (Jacq.) Walp; (Fabaceae); Zindavalli*; (1); [AC566] | – | Br | T | Kalka | Shatpadidamsha |
| 48     | Hedychium spicatum Sm.; (Zingiberaceae); Kapurkachri; (3); [AC741] | Shati | Rh | O | Kalka | Kasa |
| 49     | Heliotropium indicum L.; (Boraginaceae); Haathi sood; (1); [AC972] | Vrushchikali | L | T | Swarasa | Netra-ragata (redness in eye) |
| 50     | Hibiscus rosa-sinensis L.; (Malvaceae); Gudahal; (1); [AC1065] | Japa | L | O | Kalka | Shweta-pradara |
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|--------|-----------------------------------------------------------------|--------------|-----------|------------------------|-------------------------|------------------|
| 51     | *Hoya parasitica* var. *citrina* (Ridl.) Rintz syn. *Hoya verticillata* var. *citrina* (Ridl.) Veldkamp; (Apocynaceae); *Safedpatti*; (1); [AC12111] | –            | L         | T                      | Swarasa                 | Karnaroga (ear disease) |
| 52     | *Jasminum multiflorum* (Burm.f.) Andrews.; (Oleaceae); *Jangali chameli*; (1); [AC489] | *Kunda*      | L         | O                      | Kalka                  | Udarashoola |
| 53     | *Jatropha curcas* L.; (Euphorbiaceae); *Jamalgota*; (3); [AC624] | *Vyaghraeranda* | L         | T                      | Kalka                  | Pravahshoola (chest pain) |
|         |                                                                                     | Lt          | O                      | Kshira (latex)         | Pravahshoola (dysentery) |
|         |                                                                                     | Lt          | T                      | Kshira (latex)         | Shatpadidamsa |
| 54     | *Jatropha gossypifolia* L.; (Euphorbiaceae); *Lal-Jamalgota*; (2); [AC984] | *Rktavyaghraeranda* | L         | T                      | Swedana (therapeutic fomentation) | Vrana |
| 55     | *Lannea coromandelica* (Houtt.) Merr.; (Anacardiaceae); *Ahiya*; (1); [AC1283] | *Jhingini*  | L         | T                      | Kalka                  | Jwara |
| 56     | *Leea aequata* L.; (Leeaceae); *Lorang*; (3); [AC1603] | *Kakajangha* | Rt        | T                      | Kalka                  | Sandhivata |
| 57     | *Leea indica* (Burm.f.) Merr.; (Leeaceae); *Tokitinyu/tikal*; (1); [AC2072] | *Chatri*    | L         | O                      | Kalka                  | Jwara |
| 58     | *Litsea chinensis* Lam. syn. *Litsea glutinosa* (Lour.) C.B. Rob.; (Laureaceae); *Meda*; (1); [AC1878] | *Medasaka*  | L         | O                      | Kalka                  | Moortadaha (burning micturition) |
| 59     | *Mallotus philippinensis* var. *pal lidus Airy Shaw syn. *Mallotus pallidus* (Airy Shaw) *Airy Shaw*; (Euphorbiaceae); *Tamfato*; (1); [AC144] | *Kampillaka* | L         | O                      | Swarasa                 | Jwara |
| 60     | *Mangifera indica* L.; (Anacardiaceae); *Aam*; (1); [AC315] | *Amra*      | L         | O                      | Kalka                  | Atisara |
| 61     | *Mentha spicata* L.; (Labiatae); *Mint pata*; (1); [ACNA] | *Putiya*    | Fl        | O                      | Kwatha                 | Udarashoola |
| 62     | *Mimos a invisa* Coll.; (Mimosaceae); *Lajwant*; (1); [AC1721] | –           | Sd        | O                      | Choorna                | Shweta-Pradara |
| 63     | *Mimos a pudica* L.; (Mimosaceae); *Chhui-Mui*; (1); [AC1937] | *Lajjalu*   | L         | T                      | Kalka                  | Vidradhi (abscess) |
| 64     | *Momordica dioica* Roxb. ex Willd.; (Cucurbitaceae); *Jangali Korela*; (1); [AC463] | *Karkotaka* | L         | O                      | Swarasa                 | Amlapitta (hyperacidity) |
| 65     | *Moringa oleifera* Lam.; (Moringaceae); *Sahjan*; (1); [AC589] | *Shigru*    | L         | O                      | Kalka                  | Vandyhatva (infertility) |
| 66     | *Murraya koenigii* (L.) Spreng.; (Rutaceae); *Kari Patti*; (1); [AC674] | *Kaidarya*  | L         | O                      | Kwatha                 | Ajirna (indigestion) |
| 67     | *Musa × paradisiaca* L. syn. *Musa × sapientum* L.; (Musaceae); *Kela*; (2); [AC1857] | *Kadali*    | Fl        | O                      | Kalka                  | Atisara |
|         |                                                                                     | St          | O                      | Swarasa                 | Vyanabalvaishamya (hypertension) |
| 68     | *Myrica esculenta* Buch.-Ham. ex D. Don; (Myricaceae); *Kayphal*; (1); [ACNA] | *Kayphala*  | Fr        | T                      | Choorna                | Dantashoola |
| 69     | *Nigella sativa* L.; (Ranunculaceae); *Kala jeero*; (1); [ACNA] | *Krushanajira* | Sd        | O                      | Kwatha                 | Jwara (fever) |
| 70     | *Ocim um gratissimum* L.; (Lamiaceae); *Ram tulasi*; (1); [AC1669] | *Ram tulasi* | L         | O                      | Swarasa                 | Kasa and Pratishaya |

Contd…
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| 71    | Ocimum sanctum L. syn. Ocimum tenuiflorum L.; (Lamiaceae); Tulasi; (1); [AC1707] | Surasa       | L         | O                       | Swarasra               | Kasa and Pratishyaya |
| 72    | Oroxylum indicum (L.) Kurz; (Bignoniaceae); Burmefali; (1); [AC162] | Shonyaka     | L         | T                       | Kalka                  | Alasaka          |
| 73    | Oryza sativa L.; (Poaceae); Chaval; (1); [AC891] | Shali        | Sd        | O                       | Kalka                  | Atisara          |
| 74    | Pajanele longifolia (Wild.) K. Schum. syn. Pajnelia rheed Wight.; (Bignoniaceae); Jhimgam*; (1); [AC1076] | –            | L         | T                       | Kalka                  | Alasaka          |
| 75    | Pedilanthus tithymaloides (L.) Poit. syn. Euphorbia tithymaloides L.; (Euphorbiaceae); Talara*; (1); [AC1108] | –            | L         | T                       | Kalka                  | Shirahshoola     |
| 76    | Phyllanthus amarus Schumach. & Thonn.; (Phyllanthaceae); Bhui Amla; (1); [AC1641] | Tamalaki     | L         | O                       | Swarasra               | Kamala           |
| 77    | Physalis minima L.; (Solanaceae); Linpop Mal; (1); [AC1736] | Tankari      | L         | T                       | Kalka                  | Vrana            |
| 78    | Piper longum L.; (Piperaceae); Pipali; (1); [AC1059] | Pippali      | L         | O                       | Leaf cooked with rice  | Aruchi (anorexia) |
| 79    | Piper betle L.; (Piperaceae); Panpati; (1); [AC1349] | Nagvalli     | L         | T                       | Kalka                  | Shatpadidamsha   |
| 80    | Plumbago zeylanica L.; (Plumbaginaceae); Chitabari; (1); [AC1887] | Chitakra     | Rt        | T                       | Kalka                  | Jwara (fever)    |
| 81    | Psidium guajava L.; (Myrtaceae); Amrud; (1); [AC1982] | Peruka       | L         | O                       | Kalka                  | Atisara          |
| 82    | Quisqualis indica L. syn. Combretum indicum (L.) De Filippis; (Combretaceae); Madhhabilata*; (1); [ACNA] | –            | WP        | O                       | Swarasra               | Madhumeha        |
| 83    | Ricinus communis L.; (Euphorbiaceae); Eranda; (1); [AC1356] | Eranda       | L         | O                       | Patramashi (ash)      | Shauliya (obesity) |
| 84    | Sansevieria trifasciata Prain; (Asparagaceae); Nagapat**; (1); [ACNA] | –            | L         | T                       | Kalka                  | Shirahshoola     |
| 85    | Scoparia dulcis L.; (Scrophulariaceae); Meethipatt*; (5); [AC1167] | –            | WP        | O                       | Kalka                  | Udarashoola      |
|       |                                                           | L           | O         | Kalka                  | Ashmari (lithiasis)   |                 |
|       |                                                           | L           | T         | Kalka                  | Mukharoga             | ( stomatitis)    |
| 86    | Senna alata (L.) Roxb.; (Fabaceae); Khujali Patti; (1); [AC1528] | Dadrughna   | L         | O                       | Kalka                  | Kamala           |
| 87    | Senna occidentalis (L.) Link.; (Caesapiniaceae); Milum; (2); [AC1540] | Kasamarda   | Sd        | T                       | Kalka                  | Shatpadidamsha   |
|       |                                                           | L           | T         | Kalka                  | Shirahshoola          | (headache)       |
| 88    | Senna tora (L.) Roxb.; (Caesapiniaceae); Chakwad; (1); [AC1646] | Chakramada  | St        | O                       | Kalka                  | Krimiroga (worm infestation) |
| 89    | Sida acuta Burm.f.; (Malvaceae); Emiotamuyo; (2); [AC1840] | Bala        | L         | T                       | Kalka                  | Angamarda (body ache) |
| 90    | Solanum torvum Sw.; (Solanaceae); Jangli Baigan; (1); [AC1977] | Bruhati     | Fr        | T                       | Dhoom (smoke of dried fruit) | Dantashoola |
| 91    | Sterculia villosa Roxb; (Malvaceae); Fuk*; (1); [AC2059] | –           | L         | O                       | Swarasra               | Mootarakruchhra  |

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| S. no. | Botanical name, family, local name, number of claims, and accession number | Sanskrit name | Part used | Route of administration | Therapeutic preparation | Name of diseases |
|--------|--------------------------------------------------------------------------|---------------|-----------|-------------------------|------------------------|------------------|
| 92     | Swertia chirata Buch.-Ham. ex Wall.; (Gentianaceae); Kaadi Chirayata; (1); [ACNA] | Kirattikta    | L         | O                       | Kwatha                 | Jwara (fever). |
| 93     | Tabernaemontana crispa Roxb. syn. of Tabernaemontana alternifolia L.; (Apocynaceae); Tokurotong; (1); [AC2093] | Pindatagara   | L         | O                       | Swarasa                | Udarashoola     |
| 94     | Tabernaemontana divaricata (L.) R.Br. ex Roem. and Schult.; (Apocynaceae); Nandiya vattai; (2); [AC40] | Tagara        | Fl        | T                       | Swarasa (juice used as eye drops) | Timira (cataract) |
| 95     | Tamarindus indica L.; (Caesapiniaceae); Ilmi; (1); [AC2180] | Amlika        | L         | T                       | Swarasa                | Shirahshoola    |
| 96     | Terminalia arjuna (Roxb. ex DC.) Wight and Arn.; (Combretaceae); Arjuna; (2); [AC333] | Arjuna        | Br        | O                       | Kwatha                 | Shweta-Pradara  |
| 97     | Tinospora cordifolia (Willd.); Miers syn. Tinospora sinensis (Lour.) Merr.; (Menispermaceae); Geloy; (1); [AC626] | Guduchi       | L         | O                       | Swarasa                | Madhumeha       |
| 98     | Trachyspermum ammi (L.) Sprague.; (Apiaceae); Ajwan; (1); [ACNA] | Yavani        | Sd        | O                       | Choorna                | Atisara         |
| 99     | Vernonia cinerea (L.) Less. syn. Cyanthillium cinereum (L.) H.Rob.; (Asteraceae); Sahdevi; (2); [AC970] | Sahadevi      | L         | O                       | Kwatha                 | Mukhopaka       |
| 100    | Vernonia patula (Dryand.) Merr. syn. Cyanthillium patulum (Dryand. ex Dryand.) H.Rob.; (Asteraceae); Hotlik*; (1); [AC882] | –             | L         | T                       | Swarasa                | Ajeepe          |
| 101    | Wedelia calendulae (L.) less. syn. Sphagneticola calendulae (L.) Pruski; (Asteraceae); Ureh pens; (1); [AC911] | Pitabrugaraja | L         | T                       | Kalka                  | Vrana           |
| 102    | Xylocarpus granatum Koeing. (Meliaceae); Khadi sundari*; (1); [AC238] | –             | Sd        | O                       | Kalka                  | Raktatisara     |
| 103    | Zingiber zerumbet (L.) Roscoe ex. Sm.; (Zingiberaceae); Pothako; (1); [AC1798] | Karpuraha-ridra | Rh       | T                       | Kalka                  | Shirahshoola    |

*Plants simply mentioned under folk medicines. Br, bark; Fl, flower; Fr, fruit; L, leaf; Lt, latex; O, oral; Rh, rhizome; Rt, root; Sd, seed; St, stem; T, topical; WP, whole plant

**DISCUSSION**

Andaman and Nicobar Islands is an abode for people migrating from all over the mainland, i.e., India along with the six primitive tribes (the Great Andamanese, the Jarawas, the Onges, the Nicobarese, the Shompens, and the Sentinelese). Because of the surrounding sea and forest, the tribal and native people of these islands are living in close harmony with nature, and plants are the main source in their traditional healthcare practices. There are 62 native folk healers, and the majority from Nicobare tribal community along with Karen, Ranchi, Bengali, Tamilian, and other settler’s community of Andaman and Nicobar Islands were surveyed under this study. It was recorded that the overall 141 folklore claims, mainly comprising 103 distinct plant species, were used by them in the treatment of 47 ailments of these plant species, 85 have been mentioned in the classical texts of Ayurveda.8–12 However, other 18 plants have been quoted under folk medicine.13 They are used by folk healers in the treatment of most common diseases like fever, cut and wounds, and even in noncommunicable diseases such as diabetes mellitus and hypertension. Maximum number of plants, i.e., 13 folk claims were recorded for the treatment of abdominal pain followed by 12 claims for headache and 11 claims for fever and jaundice. The plant locally known as Mitthapatti (Scoporia dulcis L.) was recorded in the treatment of maximum ailments (Table 1 and Fig. 1).

Leaf paste for topical application and leaf juice for internal application were the most predominant therapeutic preparations among folk healers of Andaman and Nicobar Islands (Table 1 and Figs 2 and 3). These observations are similar to the previous ethnomedical studies conducted in Bay of Bengal by other researchers.14–17 The handiness of leaves in most of the seasons, less difficulty in collection, simple procedure of juice, and water being a universal solvent for extraction may be attributed toward the use of leaf juice among tribal people. This study is a comprehensive survey work on single-plant therapy practiced by native and tribal healers of Andaman and Nicobar Islands. However, there is equally a need for appropriate validation of these claims in parlance with Ayurveda classical texts, Indian Materia Medica, and other allied literature. So that it aids in developing a supplementary, simple, and cost-effective folklore medicines as the day-by-day demand for herbal medicine is gradually increasing in the global market, and the dearth of medicinal plant is becoming a challenge for the plant-
based traditional system of medicines. Hence, it is recommended to conduct extensive ethnomedicinal survey work to collect and document precise information on folklore claims based on the use of single plants from native folk healers from the respective region across the country.

**Conclusion**

This study gives immense output on the use of the individual medicinal plant in varied systemic and local diseases by the native folk healers of Andaman and Nicobar Islands. Organized and constructive information incorporated in this article may give aid to conduct further pharmacological, toxicological, and clinical studies on the reported claims to confirm their therapeutic efficacy and utility.

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हिंदी सारांश

अंडमान और निकोबार द्वीप समूह, भारत के लोक चिकित्सकों के बीच एकल द्रव्य चिकित्सा का अवलोकन

परिचय: जनजातियों सहित अंडमान और निकोबार द्वीप समूह की मूल आबादी के लोक दावों का संग्रहण और प्रलेखन बहुत आवश्यक है क्योंकि ये दावे नई औषधि की खोज के लिए मार्ग प्रशस्त कर सकते हैं। किसी एक पादप का उपयोग करके या स्वास्थ्य की खुराक के रूप में उपयोग करके किसी रोग का इलाज करने की अवधारणा तेजी से पूरे विश्व में फैल रही है और चिकित्सकों द्वारा व्यापक रूप से इसका अभ्यास किया जाता है।

उद्देश्य: इस अध्ययन का उद्देश्य भारत के अंडमान और निकोबार द्वीप समूह के मूल निवासी और जनजातियों द्वारा उपचार में प्रयुक्त विशिष्ट पादप प्रजातियों के प्रलेखन हेतु प्रयास करना है।

सामग्री और विधियां: वर्ष 2013 से 2016 के दौरान अंडमान और निकोबार द्वीप समूह के 75 वन्य प्राणियों के कुल 23 आवर्धक सर्वेक्षण किए गए और चिकित्सा प्रजाति सर्वेक्षण प्रोटोकॉल पर आधारित प्रशासनकी के अनुसार 62 स्थानीय पारंपरिक लोक चिकित्सकों का साक्षात्कार लिया गया।

अवलोकन: एकल द्रव्य उपचारों से संबंधित एक सौ इकतालीस लोक दावों पंजीकृत किए गए थे जिसमें सम्मिलित 103 औषधीय पादप प्रजातियों का उपयोग 47 विशिष्ट रोगों के उपचार हेतु किया जाता था। प्रजातियों की अधिकतम संख्या अर्थात् 13 का पेट दर्द के इलाज के साथ-साथ 13 प्रजातियों का सिरदर्द के लिए तथा 11 प्रजातियों का बुखार के लिए उपयोग किया गया।

विचार-विमर्श: 103 पादप प्रजातियों में से 85 प्रजातियों को आयुर्विद के ग्रंथों में उद्वृत्त किया गया है और शेष 18 पादपों को भी पादप अध्ययनों के अनुसार साहित्य में लोक चिकित्सा के रूप में परीमाण जाना गया है। यद्यपि यह अध्ययन अंडमान और निकोबार द्वीप समूह के मूल और जनजातीय लोक चिकित्सकों द्वारा सामान्य रोगों उनके उपयोग पर प्रकाश डालता है।

निष्कर्ष: यह अध्ययन अंडमान और निकोबार द्वीप समूह के लोक चिकित्सकों द्वारा प्रचलित विशिष्ट विश्लेषण प्राणायाम और स्थानीय रोगों में प्रयुक्त एकल औषधीय पादप के उपयोग पर विश्लेषण जानकारी प्रदान करता है। इस लेख में सम्मिलित संगठित और रचनात्मक जानकारी उनके चिकित्सीय प्रभावकारिता और उपयोगिता की पुष्टि करने के लिए कथित दावों पर आगे औषधीय, विश विज्ञान और नैदानिक अध्ययन करने में सहायता कर सकती है।

मुख्य शब्द: अंडमान और निकोबार, एकल द्रव्य, चिकित्सा, औषधीय पादप, जनजाति