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Traditional Knowledge of the Women's of Kaibarta Community of Assam about the application of Phyto-remedies in certain Common Childhood Diseases

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Abstract

In the present work all total 34 medicinal plants belonging to 24 families used by the women's of Kaibarta community of Assam, India in various Childhood diseases were recorded and documented. 19 of the recorded plants were herbs, 6 were shrubs, 8 trees and 1 climber. Out of 34 plants studied, parts of 7 (20.6%) plants are found to be used in Jaundice, 6 (17.6%) are in different skin diseases, 5 (14.7%) each in cough and dysentery, 4 (11.7%) each in worm infection and diarrhoea, 3 (8.82%) each in piles, asthma and measles, 2 (5.9%) each in whooping cough, fever, indigestion, and in epistaxis, 1 (2.94%) each of lack of appetite and earinfection. Biological activities of the recorded plants were also reported from available literature and found a positive correlation between their traditional knowledge and biological activities which validates the ITK of the women's of Kaibarta community about the application of phytoremedy in Childhood diseases.

Keywords: Traditional knowledge, Kaibarta, childhood diseases, Sivasagar, Assam.

Introduction

Plants, since times immemorial, have been used virtually in all the cultures as a source of medicine¹. In the developing world, especially in rural areas, herbal remedies continue to be a primary source of medicine². India has long history of using plants for medicinal purposes as mentioned in Ayurveda. The significance of medicinal plants for prevention, mitigation and cure of diseases are always recognized. The north-eastern region of India is known worldwide for its rich biodiversity. The region offers an immense scope for ethnobotanical studies since it is mostly inhabited by numerous aboriginal tribes having rich folklore³. Use of plant and plant-parts, like leaves, bark, root etc. in order to get rid of various diseases is a kind of common practice to the people of this region, especially the ethnic groups⁴. Peoples of the rural areas of Assam, North East India also possessed remarkably accurate knowledge about the medicinal use of the plants around them. The rural population has tremendous faith, belief and empathy for traditional herbs. Biological screening of few such plants has convincingly demonstrated there role in the treatment of diseases. Each and every community of this region has accurate Indigenous Traditional Knowledge about the application of medicinal plants around them to cure various illnesses. Traditional knowledge often includes practices based on observations⁵. Exploration and systematic documentation of Indigenous Knowledge (IK) of the tribal communities is regarded globally as a high priority research area⁶.

The Kaibartas are the aboriginal inhabitants of Assam. They are one of the sixteen Scheduled Castes of the state as per Constitution (Scheduled Castes) Order, 1950⁷. Like all other communities of Assam the peoples of Kaibarta Community has also utilizes Indigenous medicinal Plants in primary healthcare system since time immemorials. They possess remarkable Traditional Knowledge about the utilization of medicinal plants against different ailments. around them The present describes communication the Indigenous **Traditional** Knowledge (ITK) of the rural women of Kaibarta community of Sivasagar district of Assam, regarding the application of the medicinal plants as folk medicine against certain common childhood diseases. Women's of this community plays a vital role in the maintenances of their family health. Throughout the history the role of women's or mothers in the treatment and prevention of childhood diseases is pivotal.

About the Study Area and Location: The study was carried out in three Kaibarta's dominating villages of Sivasagar district of Assam viz. Akhoiphutia, No. 2 Chaulkora and Rajabari gaon. The district is located at the southern bank of the Brahmaputra River and under the Upper Brahmaputra Valley zone, and is extended between 26.45° and 27.15° N latitudes and 94.25° and 95.25° E longitudes⁸. It has elevation of 86.6 Mtrs. The average annual rainfall is 108.44 cm and temperature varies between $15^{\circ}-35^{\circ}C^{8}$. Soil is alluvial and suitable for cultivation. Semi evergreen-deciduous forest and grassland are the dominating vegetation type of the study site. The study site is touches by River Desang.

Target groups: The Kaibarta is a large fishing and cultivating Hindu caste of Assam. They are the aboriginal inhabitants of Assam and one of the sixteen Scheduled Castes of the state. The word Kaibarta means occupation through water (boating and fishing) traditionally. However in the present day situation the people of Kaibarta are actively engaged with cultivation and also in various government services. Like all other ethnic tribes of the world Kaibarta community of Assam has also developed their individual ethnomedicinal practices to cure various illnesses by using different kinds of plants available in their surrounding environment. Many researchers have documented the ethno medicinal practices of various ethnic communities and aboriginal tribes of Assam, North East India⁹⁻¹⁷. However no systematic investigation about the the ethnomedicinal practices of the Kaibarta's of Assam has been made till date to the best of our knowledge. Women's of the Kaibarta community of Assam was selected as the target group in this study. The reason for selecting the women's in this particular study is that, Women of the rural areas in Assam are very much aware regarding the application of bio-resources for their family health. They play a vital role in the maintenances of their family as well as community health.

Material and Methods

Documentation of the indigenous plants used in different Chilhood diseases by the women's of Kaibarta community of Assam, India was the principal aim of this study. The people of Kaibarta community have strong belief and knowledge on phytoremedies and they have long been using plants for various ailments. The present paper is based on data collected in the course of fieldwork undertaken among the three Kaibarta's inhabiting villages of Sivasagar District, Assam. The data were collected between January, 2012 and March, 2013. Information on different ethno-medicinal plants used against common childhood diseases were collected and documented. In order to collect direct information on the indigenous traditional knowledge about the application of phytoremedy against childhood diseases informal interview with the selected respondents of the target group were carried out with a structured questionnaire. The plant species used by the women's of Kaibarta community in childhood diseases were collected from the field and preserved in the form of herbarium sheets 18 . The herbarium sheets were identified following Flora ofAssam^{19,20} and comparing them with the herbarium of Department of Botany, Bahona College, Jorhat. All total 62 women's of 30-55 years old were interviewed, which has experience of use ethnomedicinal plants against common childhood diseases of their own child.

Biological activities of these plants have been recorded by consultation with the Phytochemical, pharmaceutical, pharmacological literature available for the plants recorded.

Results and Discussion

All total 34 medicinal plants belonging to 24 families used by the women's of Kaibarta community of Assam, India in various Childhood diseases were recorded and documented in the present work. Nineteen of the recorded plants were herbs; six were shrubs, eight trees and one climber. Out of 34 plants studied, parts of 7 (20.6%) plants are found to be used in Jaundice, 6 (17.6%) are in different skin diseases, 5 (14.7%) each in cough and dysentery, 4 (11.7%) each in worm infection and diarrhea, 3 (8.82%) each in piles, asthma and measles 2 (5.9%) each in whooping cough, fever, indigestion, and in epistaxis, 1 (2.94%) in lack of appetite and ear infection. Plants used by the rural women's of the study site, in childhood diseases are enumerated and arranged in a order having botanical name, family name, local name in Assamese language, uses and method of preparation of medicines along with doses against different diseases, experimental data available on Biological activity of the plants are also included.

Asthma: i. *Acorus calamus*, Araceae, Boch, About 5-10 ml juice of rhizome is given with water for 3-5 days: insecticidal, antifungal, antibacteria²¹ tranquilizing, antidiarrhoeal, antidyslipidemic, neuroprotective, antioxidant²². ii. *Solanum indicum* Solanaceae Tita bhekuri, about 5-10 ml of roots juice are given once daily until cure: anti-hypersensitive²³, anti-inflammatory, anticancer and wound-healing potentials²⁴, hepatoprotective activity²⁵. iii. *Solanum nigrum*, Solanaceae, Pokmou, About 5-10 ml of roots juice given once daily until cure: anti-hypersensitive²³, anti-inflammatory, anticancer and wound-healing potentials²⁴, hepatoprotective activity²⁵. iii. *Solanum nigrum*, Solanaceae, Pokmou, About 5-10 ml of roots juice given once daily until cured: hepatoprotective activity²⁵, antibacterial²⁶.

Jaundice: i. Musa paradisica, Musaceae, Athia kal, the ripening fruit of Musa paradisica are dropped in water with Cicer arietinum (bootmah) and Jiggery for overnight, the juice is given 7-10 days or until cure: antiulcer activity²⁷. antibacterial, antioxidant²⁸. ii. Cajanus cajan, Fabaceae, Arhar dal, 5-10 ml leaf juice given daily until cured: i. antibacterial²⁹, anti-inflammatory³⁰, antidotant³¹. iii. Bryophyllum pinnatum, Crassulaceae, Dupor tenga, 20 ml leaf juice given daily two times until cured: anti-cancer, antiinflammatory, diuretic, oxytocic, laxative, antispasmodic, antihypertensive, antidiabetic, and anti-microbial³². iv. Drymeria cordata, Caryophylaceae, Laijabori, Leaf juice mixed with sugar or jiggery and 20 ml of it given daily one time until cured: antitussive activity³³, antibacterial³⁴ and anti-inflammatory effects³⁵. v. Solanum nigrum, Solanaceae, Pokmou, Leaves are boiled with water, and 20 ml 0f extracted juice is used once daily in empty stomach for 7 days: hepatoprotective activity²⁵, antibacterial²⁶. vii. Averrhoa carambola, Oxalidaceae, Kordoi are crushed to extract the juice and taken with water for 5-7 days: antibacterial, antioxidant³⁶. viii. Psidium guajava, Myrtaceae, Madhuri, 1 volume of the juice of fresh leaves are mixed with 2 volume of water and is given 2-3 times daily until cured: anticestodal³⁷, analgesic, anti-inflammatory properties³⁸, antimicrobial³⁹, hepatoprotective⁴⁰ and antioxidant activities⁴¹.

Skin diseases: i. *Cassia occidentalis*, Leguminasae, Medelwa, and Leaves paste are applied on the infected areas of itches, ringworm and other skin diseases: Antibacterial⁴², antimutagenic⁴³, anticarcinogenic⁴⁴ and hepatoprotective⁴⁵. ii. *Cassia tora*, Leguminasae, Bon medelwa, Leaves paste is used

on the affected areas of ringworm and eczema: Antibacterial⁴⁶. iii. *Drymaria cordata*, Caryophyllaceae, Laijabori, paste of whole plants are applied on the affected areas of ringworm: antitussive activity³³, antibacterial³⁴ and anti-inflammatory effects³⁵. iv. *Azadirachta indica*, Meliaceae, Mohaneem, The crude extract of the leaves is applied locally for 4-5 days to cure skin infections: Antibacterial⁴⁷, antifungal⁴⁸. v. *Flemingia strobilifera*, Papilionaceae, Dighloti, For ringworm infection, plant extract is applied over the infected area three times daily until cure: antibacterial, antifungal⁴⁹. vi. *Vitex negundo*, Verbenaceae, Pochotia, Leaf Paste is applied on scabies: antiinflammatory⁵⁰, antioxidant⁵¹.

Measles and Chicken pox: i. *Azadirachta indica*, Meliaceae, Neem, Leaves are put in the rooms in which child remains and also upon the doors, it is belived that they act as antiseptic and freshen the air which prevents superinfection of measles and chicken pox: Antibacterial⁴⁷, antifungal⁴⁸. ii. *Bambusa tulda*, Poaceae, Banh, processed bamboo shoot (Kharisha) fried with fish species *Clarius batratus*(Magur) and given to eat for wound healing due to measles: Bamboo shoot has healing capacity⁵², The nutrient content in *Clarius batratus* has wound healing capacity⁵³. iii. *Cajanus cajan*, Leguminosae, Arhar, Leaves are crushed and used in the infected areas of Measles: Antiviral⁵⁴, antibacterial⁵⁵.

Ear Infection: *Colocasia esculentus*, Araceae, Kola Kochu, The juice of petiole is burned for some time and its paste is dropped into the ear of children for earache: Antiinflammatory⁵⁶, antibacterial⁵⁷.

Lack of apetite: *Leucas aspera*, Lamiaceae, Durun bon, fresh leaves are boiled and given with rice for consume: analgesic and anti-inflammatory activities⁵⁸ antibacterial, antifungal⁵⁹.

Indigestion: i. *Houttuynia cordata*, Saururiaceae; Mosonduri, Fresh leaves are crushed and eaten raw or steam cooked and taken as a remedy for constipation and indigestion: antiinflammatory, antipyretic and diuretic agent⁶⁰. ii. *Clitoria ternatea*, Fabaceae, Aparajita, powdered extract of root is mixed with water and given orally: Laxative, nervwe tonic, antibacterial⁶¹.

Cough: i. *Zingiber officinale*, Zingiberaceae, Ada, *Fresh* rhizome is crushed with old molasses and given orally: antiinflammatory and antinoceptive activities, muscle relaxant⁶². ii. *Murraya koenigii*, Rutaceae Narasingha, Fresh leaf juice along with equal amount of honey is given 3-4 times daily for a week: antioxiant, antibacterial, antifungal⁶³. iii. *Ocimun sanctum*, Lamiaceae, Tulsi, The crude extract of leaf is mixed with honey and given 3-4 time until cure: Antibacterial⁶⁴. iv. *Adhatoda vasica*, Acanthaceae, Boga bahak, Crude extract of leaf is taken orally to cure severe cough problems: antiasthmatic activities⁶⁵. v. *Psidium guajava*, Myrtaceae, Madhuri, fresh leaves juice along with water is given 2-3 times daily for 3 days: Anticestodal³⁷, analgesic, anti-inflammatory properties³⁸, antimicrobial³⁹, hepatoprotective⁴⁰ and antioxidant activities⁴¹.

Whooping cough: i. *Solanum nigrum*, Solanaceae, Leaf extracts are mixed with honey and 10 ml of it is given once daily for 2-3 days: hepatoprotective activity²⁵, antibacterial²⁶. ii. *Rumex nepalansis*, Polygonaceae, Tar bowra, 1 tablespoon of fresh leaf juice is given orally 2-3 times daily until cured: Purgative⁶⁶, analgesic, antipyretic⁶⁷, anti-inflammatory⁶⁸, antibacterial⁶⁹ and antifungal⁷⁰.

Fever: i. *Drymaria cordata*, Caryophyllaceae, Laijabori, Watery paste is prepared with *Caesalpinia crista*, and used in fever: antitussive activity³³, antibacterial³⁴ and antiinflammatory effects³⁵. ii. *Aloe vera*, Liliaceae, Chalkuwari, Crushed leaf paste is applied on the forehead: antiinflammatory, antibacterial and antifungal⁷¹.

Diarrohea: i. *Oxalis corniculata*, Oxalidaceae, Sorutengesi. 5-10 ml of the extracts of whole plant is given twice daily for 7 days: Antibacterial⁴⁶. ii. *Syzygium cumini*, Myrtaceae, Jamu, 5-10 ml of fruit juice is given twice daily for a week: Antibacterial⁷², antifungal⁷³ and anti-inflammatory activities⁷⁴. iii. *Eclipta postrata*, Asteraceae, Kehraj, Shoot juice with few drops of mustard oil or root extracts are given once daily for 3-4 days: Antibacterial, antioxidany^{75,76}. iv. *Carica papaya*, Caricaceae, Amita, Unripe fruits are boiled and given: Amoebicide⁷⁷, antiviral⁷⁸.

Dysentery: i. Psidium guajava, Myrtaceae, Madhuri, About 10 ml of fresh leaf juice mixed with equal amount of water and sugar is given 2-3 times daily for a week: Anticestodal³⁷, analgesic, anti-inflammatory properties³⁸, antimicrobial³⁹, hepatoprotective⁴⁰ and antioxidant activities⁴¹. ii. *Citrus medica*, Rutaceae, Gul Nemu, 10 ml of fruit juice mixed with water and sugar is given 2-3 times daily until cured or small amount of dried peel is also given to consume directly: Peel: aromatic and tonic⁷⁹, Pulp: remedy against febrile illnesses⁸⁰, antibacterial⁸¹. iii. Aegle marmelos, Rutaceae, Bel, The fruit pulp is mixed with milk and given in empty stomach to cure dysentery: Antiviral⁸² fruit hypoglycaemic activities⁸³, antidiarrhoeal⁸⁴. iv. *Houttuynia* cordata, Saururaceae, Machandari, Decoction of entire plant is given once daily for 2-3 days: antimicrobial⁸⁵. v. Oxalis corniculata, Oxalidacea, Saru tengeshi, Whole plant is boiled and given with rice for consume once per day for 2-3 days: Antibacterial⁴⁶.

Worm Infection: i. *Andrographis paniculata*, Acanthaceae, Kalmegh, A 5-10 ml of leaf extract with equal amount of water is given 1 - 2 times daily for a week: Anthelmintic^{86,87}. ii. *Phlogacanthus thyrsiflorus*, Acanthaceae, Titaphool, Flowers are cooked as vegetables and given to eat: Antimicrobial⁸⁸. iii. *Carica papaya*, Caricaceae, Amita, Nearly ripe fruits are given to eat: iv. Anthelmintic^{89,90}. v. *Annonas cosmos*, Annonaceae, Matikothal , fresh fruits are given to eat in excess: genus Annona has anthelmintic activity⁸⁹.

Nose bleeds (epistaxis): i. Leucas aspera, Lamiaceae, Doran, whole plant is held over the nose and the strong smell is

inhaled.: antinociceptive, antioxidant and cytotoxic activities⁹¹ antimicrobial⁹², antifungal⁹³. ii. *Ageratum conyzoides*, Asteraceae, Gondhowa-bon, Leaf is crushed and held over the nose and the smell is inhaled: haemostatic Activity⁹⁴.

Conclusion

The Kaibartas of assam has tremendous faith, belief and empathy for traditional herbs. There has been the practice of using some plants formulation traditionally though in crude forms against a variety of diseases by this community. During the present study all total 34 indigenous medicinal plants were recorded and documented used against various childhood diseases by the women's of Kaibarta community of Assam. From the study it is noted that the rural women of Kaibarta community of Assam has possess remarkable knowledge about the application of indigenous plant resources around their surrounding environment against different common ailments. Their Indigenous Traditional Knowledge (ITK) about the application of locally available medicinal plants against various common ailments is also supported by phytochemical and pharmacological investigation of these plants. In spite of rapid progress in the field of modern medicine, their belief and dependence on ethnomedicine is not declined. However proper phytochemical investigations of these indigenous medicinal plants are essential in order to validate their indegenous traditional knowledge.

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