

Ethnobotanical Study of Antifertility Medicinal Plants Used by the Meitei Community of Imphal East District, Manipur

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Abstract: Ethnobotanical study was undertaken to gather information about the use of traditional knowledge of medicinal plants as antifertility agent among the rural people of Meitei community of Imphal East district, Manipur. Information on antifertility medicinal plants used was collected from elderly people (Personal communication with local people and questionnaire) of the selected 10 villages of Imphal East district, Manipur. The present study highlights 55 plant species belonging to 28 families which are being used for birth control and abortion by the local people. The study revealed that the local people are using folklore medicinal plants for contraceptive purposes. This survey can be a source for the discovery of novel pharmacologically bio-active compounds and document the herbal practices for antifertility purpose by the rural people of Manipur state.

Keywords: Medicinal plants, Meitei community, Antifertility, Traditional knowledge, Ethnobotanical

1. Introduction

Overgrowing population is one of the major problems in the developing countries like India, and it is estimated that India's population will get increased to about 9.2 billion by the year 2050. To combat this problem scientists are on the hunt for newer alternatives which are self administrable, less expensive and with lesser side effects and complete reversibility Umadevi M et al., 2013[1]. Nowadays, fertility control finds a great significance because it is an effective method to check the problem of rapid population growth. Plant products have attracted the attention of many scientists as a primary source of naturally occurring fertility regulating agents because of their little or no side effects. The indigenous Meitei community of Manipur state are closely associated with the medicinal plants and traditional knowledge system is still continuing from time immemorial through ages. These people understandably have a good knowledge of their local resources. The majority of the state's population are rural folk who have long been using plants for their various ailments, although they have accepted modern health care facilities. The rural folk at large still prefer to stay with their traditional herbal contraceptive methods. The World Health Organisation suggested that effective, locally available plants can be used as substitutes for drugs. Fertility control is an issue of global and national public health concern.

The state of Manipur lies in the North-Eastern part of India sub continent and falls under Indo-Burma hot spot region which ranks 8th amongst the 34 biodiversity hot spot region of the world Myers N et. al., 2000[2]. It is situated between 23°50'N and 23°30'N latitude and between 93°10'E and 94°30'E longitude and has a total area of 22,327 Km². The state is inhabited by different communities belonging to Mongoloids Austro-Asians and Indo-Aryans. Since time immemorial kings of Manipur have been systematically using folk medicine. Thus, the systematic documentation of indigenous knowledge about the use of these plant resources by the local people and their biological examination would be useful for the discovery of new therapeutic agents.

Keeping in view, the present investigation has been taken to investigate and document the herbal practices for antifertility purpose by the rural people of Manipur state.

2. Materials & Methods

Frequent field visits were conducted from June 2015 to December 2015 to the selected 10 villages of Imphal East district, Manipur Jain SK et al., 1995 [3]. Information was gathered about traditional knowledge on medicinal plants used for birth control and abortion. Field trips were conducted with the local medicine man (called *Maiba* and *Maibis*) and elders. Personal interview were carried out with the pre-planned schedule. Questionnaires were used for data collection which included local name of plants, family, useful parts, detailed method of drug preparation and administration. The methodology adopted for the study was based on interviews of women having knowledge of medicinal plants of their local area. The documentation was done based on interview, informal discussion, group discussion among women of different age groups was also taken into consideration for generating information. The information thus collected was documented as the local name of the plant, part used in birth control (abortifacient and antifertility) habitat and status on the area. The plants are enumerated alphabetically with botanical names, followed by local names, family and part used.

3. Results

In the present study 55 medicinal plants were documented which were used for antifertility and birth control by the local people of Meitei. Among the plants, such as *Adha*, *toda*, *Alpinia galanga*, *Mimosa pudica*, *Nerium indicum*, *Euphorbia hirta*, *Acorus calamus* etc. are commonly used by the Meitei community (Personal communication with the local people). Some of the plants in the present study have been well recognised by Indian system of medicine in Ayurveda for birth control. Plant species are arranged with their scientific name, common name, family and part used as shown in the Table 1.

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4. Discussion

Population control has now assumed great significance in many developing countries and attracted the attention of governmental and other nodal agencies. In regard with this search for harmless, inexpensive and effective oral agents for fertility control in human beings has tremendous importance for the use of plant preparations and medicament for pregnancy interception was known to ancient Indian

physicians. Plants were used as emmenogogues, abortifacient and as oral contraceptives Kamboj et al., 1988[4]. A large number of indigeneous plants having interceptive activities are recorded in ancient Indian literature Kritikar et al., 1975 [5]. Among rural population of Rajasthan, dry seeds of carrot are chewed by women for their reputed efficiency in intercepting early pregnancy. In view of this Sharma et al., 1976, Garg et al., 1974, Garg et al., 1978, Ashwin et al., 1986 Norton Sp 1978 [6,7,8,9,10].

Table 1:

S. No	<i>Achyranthus aspera</i>	Khujum pere	Amaranthaceae	whole plant.
1	<i>Acorus calamus</i>	Ok-hidak	Araceae	Leaves
2	<i>Adhatoda vasica</i>	Nongmangkha	Acanthaceae	Leaves
3	<i>Aegle marmelos</i>	Hei-khagok	Rutaceae	Leaves
4	<i>Adiantum philippensis</i>	Laichangkhrang	Polypodiaceae	Fresh leaves
5	<i>Allium cepa</i>	Maroi tilhou	Liliaceae	Bulb
6	<i>Allium sativum</i>	Chanam	Liliaceae	Bulb
7	<i>Alpinia galanga</i>	Kanghu	Zingiberaceae	Rhizome
8	<i>Ananas comosus</i>	Kihom	Bromeliaceae	Unripe fruits
9	<i>Abrus precatorius</i>	Chaning	Papillionaceae	Roots&Seeds
10	<i>Azadirachta indica</i>	Neem	Meliaceae	Leaves
11	<i>Artabotrys odora</i>	Chini-champra	Annonaceae	Leaves
12	<i>Aloe barbadensis</i>	Ghirtakumari	Liliaceae	Leaves
13	<i>Bombax ceiba</i>	Tera	Bombacaceae	Fresh seeds
14	<i>Butea monosperma</i>	Pangong	Fabaceae	Seeds
15	<i>Bacopa monnerei</i>	Leibak kundo	Scrophulariaceae	Leaves
16	<i>Cassia fis tula</i>	Chouhui	Ceasalpiniaceae	Seeds
17	<i>Carica papaya</i>	Awathabi	Caricaceae	Seeds & Latex
18	<i>Cyperus rotundus</i>	Sembang kaothum	Cyperaceae	Whole plant
19	<i>Centella asiatica</i>	Peruk	Apiaceae	Leaves
20	<i>Costus spaciosus</i>	Khongbal Takhe lei	Costaceae	Seeds
21	<i>Cuscuta reflexa</i>	Uri sanamanbi	Cuscutaceae	Whole plant
22	<i>Curcuma longa</i>	Yaingang	Zingiberaceae	Rhizome
23	<i>Calotropis gaganta</i>	Angkot	Asclepladaceae	Latex&Flower
24	<i>Euphorbia hirta</i>	Pakhang leiton	Euphorbiaceae	Whole plant
25	<i>Embelica officinalis</i>	Heigru	Euphorbiaceae	Whole plant
26	<i>Foeniculum vulgare</i>	Pakhon	Apiaceae	Fruits
27	<i>Ficus religiosa</i>	Sana khongnang	Moraceae	Leaves
28	<i>Gossypium herbacium</i>	Lashing	Malvaceae	Stem,roots& leave
29	<i>Jatropha curcus</i>	Awa kege	Euphorbiaceae	Seeds
30	<i>Leucas aspera</i>	Mayang lambum	Lamiaceae	Fresh stem & roots
31	<i>Mimosa pudica</i>	Kangphal ekaithabi	Mimosaceae	Leaves & roots
32	<i>Mentha arvensis</i>	Nungshi hidak	Lamiaceae	Leaves
33	<i>Michelia champaka</i>	Leihao	Magnoliaceae	Seeds
34	<i>Momordica charant</i>	Karot akhabi	Cucurbitaceae	Seeds
35	<i>Mallotus philippensis</i>	Ureiom laba	Euphorbiaceae	Seeds
36	<i>Moringa olifera</i>	Sajana	Moringaceae	Roots
37	<i>Nerium indicum</i>	Kabirei	Apocynaceae	Roots
38	<i>Oxalis corniculata</i>	Lam yensil	Oxalidaceae	Whole plant
39	<i>Ocimum sanctum</i>	Tulsi	Lamiaceae	Leaves
40	<i>Plantago erosa</i>	Yempat	Plantaginaceae	Leaves & seeds
41	<i>Plumbago zeylanica</i>	Til hidak	Plumbaginaceae	Roots & fruits
42	<i>Polygonum hydropiper</i>	Chaokhong	Polygonaceae	Leaves
43	<i>Punica granatum</i>	Kamphoi	Punicaceae	Fruits
44	<i>Ricinus communis</i>	Kege	Euphorbiaceae	Seeds
45	<i>Solanum khasianum</i>	Lam khamen	Solanaceae	Whole plant
46	<i>Solanum xantho ocarpum</i>	Leipung khang	Solanaceae	Fruits
47	<i>Solanum Nigrum</i>	Morok man	Solanaceae	Whole plant
48	<i>Tamarindus indica</i>	Mange	Caesalpiniaceae	Fruits
49	<i>Tinospora cordifolia</i>	Ningthoukhongli	Menispermaceae	Stem
50	<i>Vitex negundo</i>	Urikshibi	Verbanaceae	Seeds
51	<i>Zingiber officinalis</i>	Sing	Zingiberaceae	Rhizome
52	<i>Ziziphus mauritiana</i>	Boroi	Rhamnaceae	Bark

53	<i>Cynadon dactylon</i>	Tingthou	Poaceae	Roots
54	<i>Mangifera indica</i>	Heinou	Anacardiaceae	Leaves

have been worked and reported to possess anti-implantation and antifertility effects of these seed extracts in rodents. The use of these plant as antifertility agent have been worked upon by many workers from time to time in different parts of India. So in future, people might be completely lost their knowledge of use of folk medicine. Therefore, it is of great interest to carry out a screening of these plants in order to validate their use in folk medicine and to reveal the active principle by isolation and characterisation of their constituents. Hence, an attempt has been made to explore and document the medicinal plants used as antifertility agent by the local people of Imphal East District, Manipur.

5. Conclusion

In the present study 55 medicinal plants are recorded and documented as antifertility agents along with other known plant species. These herbal contraceptives offer alternative for women who have problems with or lack of access to modern contraceptives option particularly women living in the rural area of Manipur. Further investigation and isolation of active compounds of these antifertility plants are needed.

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