Ethno-Gynaecological Study Of Medicinal Plants Used By The *Meitei* Community Of Bishnupur District, Manipur, North-Eastern India

Thokchom Geeta Devi[1], Research Scholar,
Department of Botany, CMJ University, Jorabat, Meghalaya, India

*Corresponding Author
Maibam Haripiya Devi[2]*
Department of Botany, Manipur College, Manipur University, Imphal, Manipur, India

Potsangbam Kumar Singh[3]
Department of Botany, Manipur International University, Imphal -795 140, Manipur, India

ABSTRACT

BACKGROUND OF THE WORK: Bishnupur District of Manipur has rich biodiversity of ethnomedicinal plants and the indigenous *Meitei* community residing in this area have ample knowledge of medicinal plants available in their surroundings to cure different gynaecological disorder. The present study encompasses to determine the records of the quantitative data regarding the ethnomedicinal plants used in Maternal health care by the *Meitei* community of Bishnupur District, Manipur. **MATERIALS AND METHOD:** The information was collected from 120 informants (40 males and 80 females) ranging from 20 to 80 age group, who have knowledge of ethno-medicine in treating women health care of 14 localities, by using random sampling technique data collection and data analysis were done through frequent survey programme through open ended and semi-structure questionnaire. Questionnaire indices such as informant consensus factor (FIC) and Fidelity level (FL) were used. **RESULTS:** The present study reveals that overall, 17 different women ailments are being treated with a total of 35 plants species belongs to 54 general that are distributed over 23 families. It was found that the Amaranthaceae, Asteraceae, Euphorbiaceae and Fabaceae was the most dominant among all other families followed by Apocynaceae, Acanthaceae, Moraceae and Poaceae. *Eupatorium odoratum* L. shows the highest number of informant (42) for Gonorrhoea which have FL value of 93 and FIC value of 0.94 followed by *Blumea aromatica* DC which have 42 informants and living FL value of 93 and FIC value of 0.88 for Leucorrhoea *Mesue ferrea* L. possess Fl value of 50 and FIC value of 0.84 for Leucorrhoea and are included in the last portion Which are being supported by only 4 informants. **CONCLUSION:** The plants with highest use value and informant consensus factor and fidelity level from the present study sites could be employed in pharmacological research and useful in the production of bioactive compounds for future prospect.

Keywords: Ethno-Gynaecological, Quantitative, ailment, Medicinal Plants, Treatment

INTRODUCTION

Manipur has been included under the Indo-Burma Biodiversity hot spot coupled with the declaration of the Loktak lake as a Ramsar site which is situated in the Bishnupur district of Manipur which is the lifeline of the people living in that area. The Loktak lake produces a wide diversity of medicinal plants and food materials and other resources for human consumption. (Singh and Singh, 1994, Trisal and Manihar, 2004) mentions the dominance of traditional medicines from wetlands for indigenous treatment and health care over the modern ones in rural community. Surveys and documentations of medicinal plants in different districts of Manipur State were also recorded (Devi, 1995, Devi *et al.,* 2015, Devi *et al.,* 2017, Devi *et al.,* 2022a, b, c; Jain *et al.,* 2007, Ningombam *et al.* 2014, Singh, 2002, Singh and Singh 1994, Sing *et al.,* 2000, 2015, 2003). Due to lack of investigation and exposure, less information is available for traditional remedies of medicinal plants. Medicinal plants play a vital role in the human health care system and in the treatment of various gynaecological problem. Ethno-gynaecology is a traditional approach that address women's health care problem. A number of medicinal plants are being used to care woman problems related to menses, abortion, menopause, gonorrhoea, leucorrhoea, delivery complaints and infertility. It has been reported that sexual and other reproductive health issues account for 18% of the total globe disease load (Kaingu *et al.,* 2011, Abdulla *et al.,* 2012).

Ethnobotany is the systematic study of plants and their practical uses through the traditional knowledge of local culture and people. Plants serve humans with food, shelter, medicine, and fodder for their animals (Towns and Van Andel, 2016). Ethnobotany and ethno medicinal plant studies are recognized as the most viable methods for identifying new medicinal plants and refocusing on the earlier reported bioactive constituents (Abujam e*t al.,* 2019). Therefore, studies and documentation on ethnobotanical and traditional knowledge of medicinal plant use have been considered a high priority sometimes leading to the discovery of crude drugs (Cox and Balick, 1994; 1996, Pieroni, 2000). The main focus of the ethnobotany is the documentation and preservation of traditional medicinal knowledge, community development, and conservation of endangered species (Ajaib *et al.,* 2014). Medicinal plants containing therapeutic agents have been used in healthcare to cure human diseases and nowadays still represent an important tool for the identification of novel drugs (Alarcon *et al*, 2015). Medicinal plants contain substances that can be used for therapeutic purposes and a large number of plants have been used in traditional systems for many years (Ahmad *et al.*, 2017).

Before the mid-1950s, research in ethnobiology was primarily descriptive, but by the mid-1980s researchers had already incorporated a variety of quantitative methods for data collection and data analysis into it (Philips *et al.*, 1993,1994).

Traditional medicine is defined as diverse health practices, approaches, knowledge and beliefs incorporating plant animal and/ or mineral based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being as well as to treat, diagnose or prevent illness (WHO 2002). Nearly about 80% pf the world population rely in traditional medicine for primary health care, most of the which involve the use of plant extracts (Sandhya *et al*., 2006, Akerela,1993). Medicinal plants have played a very important role in the human health care system and it has been the source of the medicinal agents from the ancient times. The practice of herbal traditional medicine is considered to be safe, effective and less expensive (Das and Tongbram, 2014).

Today, in modern societies, gynaecological problems are usually treated with allopathic medicines, surgery, and non-steroidal anti-inflammatory drugs which pose risks to the foetus at the gestation stage on the entire pregnancy period (Lawal *et al*, 2013). The rural women of *Meitei* community of Bishnupur District, Manipur frequently experience gynaecological problems due to poor living conditions, lack of proper food to eat, illiteracy and extensive physical work even during pregnancy. They are responsible to survive their families. A traditional lifestyles and lack of proper access to modern health facilities motivate rural women to consult nearby midwives and traditional healers (Qureshi *et al.*, 2011). Most of the women in Bishnupur area seek treatment from traditional healers for a variety of complications associated with the female reproductive organs because of poor standard of living. Traditional knowledge of medicinal plants and their use by the traditional healers are not only useful for conservation of cultural tradition and biodiversity, but also for community health-care and drug development in the present and future. This research report will be helpful for getting knowledge on some aspects of medicinal uses of plants from Bishnupur District, Manipur. This quantitative study focusing mainly on ethnomycological study which highlights the importance of traditional herbal remedies for their medical requirement. The outcome of the study would serve as a baseline or advance phytochemical and pharmacological screening and conservation for further studies.

MATERIALS AND METHODS

Study area

Bishnupur district is one of the 21 districts of Manipur and become a full-fledged district on May 25, 1983. The district headquarter is located 27 Km away from state capital Imphal. The district has a total area of 496 Km^2. There are 7 towns and 49 villages in this district. As per 2011 census of India, Bishnupur has a population of 237, 399 in 2011 out of which 118,732 are male and 118,617 are female. Population of Bishnupur in 2022 is estimated to be 313,367 inhabitants. Literate people are 156,333 out of 87,313 are male and 69,020 are female respectively. The average sex ratio is 999. The district is bounded by Imphal West district in the north, Churanchanpur district on the south, Imphal East district and Thoubal district in the west. It harbours various landscapes and element of state importance. The famous Loktak Lake which is the world's largest fresh water floating lake is located in Bishnupur district. This lake spreads to about 287 Km^2 in Moirang. The world's only floating National Park called Keibul Lamjao National Park is in this lake. The park is also the only home to the state animal and the endangered brow antlered deer, *Sangai*.

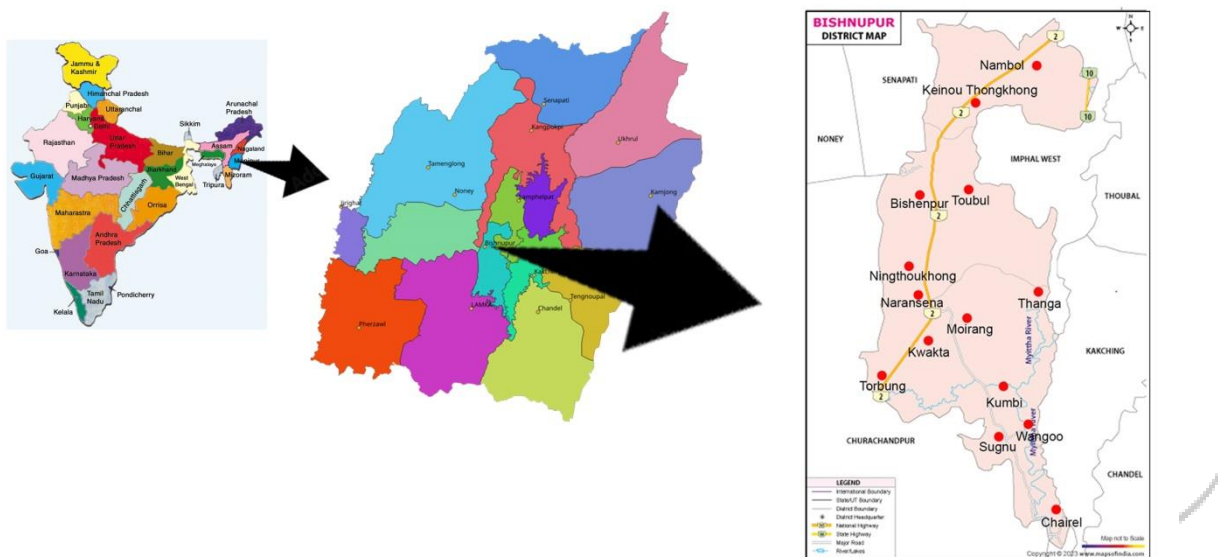### Map of Bishnupur district showing study sites

Figure 1. Map of Bishnupur district showing study sites in red spots namely: Nambol, Keinou Thongkhong, Thoubal, Bishnupur, Ningthoukhong, Naransena, Thanga, Moirang, Kwakta, Torbung, Kumbi, Wangoo, Sugnu and Chairel

Data Collection

The present study is based on the data collected on Ethno-gynaecological practices among the *Meitei* community of Bishnupur district, Manipur during December 2019 to March 2023. All the 14 sites have been exhaustively investigated using standard methods for the collection of ethno-gynaecological information. Direct interviews were conducted in all the 14 sites namely: [Nambol, Keinou Thongkhong, Thoubal, Bishnupur, Ningthoukhong, Naransena, Thanga, Moirang, Kwakta, Torbung, Kumbi, Wangoo, Sugnu and Chairel] Figure 1. Informants were chosen by random sampling techniques from amongst the people who possess the knowledge of ethnomedicine in treating the women health-care of that area. The information was collected from 120 informants (40 males and 80 females) ranging from 20 to 80 age group (Table 1). Various data collected with semi-structured questionnaire which includes about the pharmacological information of diverse medicinal plants used for the therapy including dosage, plant parts used, method of preparation, modes of application, type of disease treated, local name of the plant etc. The collected specimens were identified by using standard local flora of Manipur, available literature (Hooker, 1882, Singh *et al*, 2000). Classification, Author citation and updated nomenclature are provided based on the plant list (www.plantlist.org) and the international plant Name Index (http://www.ipni.org), Plants of the world online (Powo, 2020): http://plantsof the worldonline.org.

Table1: Demographic details of informants residing in the study site of Bishnupur district, Manipur.

Parameter	Informant Group	Number
Gender	Male	50
	Female	70
Age Group	Young (≤ 30 years)	81
	Senior (≥ 30 years)	39
Educational Status	Literate	30
	Illiterate	90
Informants	Key Informants and General Informants	120

Data Analysis

Analysis of data was done by using two quantitative tools such as FL (Fidelity level) and FIC (Informant census factor)

Fidelity level (FL)

The fidelity level (FL) was determined for the most frequently used category by calculating the percentage of informants claiming the use of a certain plant for the same major purpose.

$$FL = \frac{NP}{N} \, X \, 100$$

Where, NP (number of informants) that claim the use of a particular plant species to treat a particular disease only and N is the number of informants that use such species including other disease in addition to the former disease. The value of 'N' will always be more than or equal to 'NP'.

Informant consensus factor (FIC)

Informant consensus factor (FIC) was used to check the similarity on the informant's information for each use category and also to check the authenticity of the work by using the following formula.

$$FIC = \frac{Nur - nt}{Nur} - 1 \text{ is mainly concerned for particular disease}$$

Where Nur is the total number of informants who use plant species for a typical ailment, nt is the total number of plant species used in that particular disease.

Generally, plants which are used in some repetitive fashions are more likely to be biologically active. The factor provides a range of 0 to 1 (Canales *et al.*, 2005, Heinrich *et al.*, 1998).

RESULTS

FIC indicates the probable and reasonable use of a particular plant species for specific ailment and this is supported by the high FL value with higher number of informants. Higher the number of informants using a specific plant species for a particular ailment more is the value of FL. On the other hand, higher the FL value the corresponding FIC value is also higher. So, these values are directly proportional and correlated. Such kind of observation is applicable and 90% of the analysis using two tools is found correct in the present study. *Eupatorium odoratum* L. shows the highest number of informant (42) for gonorrhoea which has FL value of 93 and FIC value of 0.94. (Table 2,3,4) followed by *Blumea aromatic* DC which have 42 informants and having FL value of 93 and FIC value of 0.88.

Table 2. Diseases with total number of informants; plant with maximum number of informants and total plant used

Sl. No.	Name of the disease	No. of informant	Name of the plant with maximum no. of informant	No. plant species used
1.	Abortion	43	*Carica papya L.* (15)	06
2.	Amenorrhoea	12	*Indigofera tinctoria L.* (09)	02
3.	Antifertility	49	*Bombax ceiba L.* (12)	08
4.	Contraceptive	42	*Andrographis paniculata Wall* (10)	07
5.	Gonorrhoea	67	*Eupatorium odoratum L.* (42)	05
6.	Immunity Booster after delivery	03	*Allium ascolanicum L.* (03)	01
7.	Improve fertility in women	12	*Artocarpus heterophyllus Lamk.* (12)	01
8.	Irregular Menstruation	10	*Solanum torvum S4* (04)	03
9.	Lactagogue	27	*Hedychium marginatum C.B. clarke* (11)	05
10.	Leucorrhoea	109	*Blumea aromatic DC* (41)	14
11.	Menorrhagia	39	*Asparagus racemosus wild* (08)	07
12.	Menstrual disorder	21	*Aloe vera (L.) Burm.f* (09)	05
13.	Nipple pain	06	*Indigofera tinctoria L.* (04)	02
14.	Postpartum delivery pain	23	*Ageratum conyzoides L.* (09)	04
15.	Sex tonic	04	*Aphanamixis polystachya (Wall.) R. Parker* (04)	01
16.	Timely delivery of child	08	*Achyranthes aspera L.* (08)	01
17.	Women disease	O5	*Allium ascalonicum L.* (05)	01

Table 3. Medicinal plants used with their ailment, use informant, FL value and part used

Sl.No.	Name of the plant	Aliment	Use Informant (NP)(FL)	Plan part used
1.	*Abrus precatorius L.* Family: Fabaceae Local Name: Chaning mei-mubi	(1) Postparum delivery pain (2) Leucorrhoea	(8, 61) (5, 45)	Seed Leaves
2.	*Achyranthes Aspera L.* Family: Amaranthaceae Local Name: Khujumpere	(1) Timely delivery (2) Leucorrhoea	(8, 61) (5, 38)	Root Root
3.	*Ageratum conyzoides L.* Family: Asteraceae Local Name: Khongjai napi	(1) Menorrhagia (2) Postpartum delivery pain	(5, 35) (9, 64)	Leaves Root
4.	*Allium ascolanicum L.* Family: Liliaceae Local Name: Meitei tilhou	(1) Immunity booster after delivery (2) Woman disease	(3, 37) (5, 62)	Bulb Leaves
5.	*Aloe vera (L.) Burm.f* Family: Asphodelaceae Local Name: Ghrita kumar	(1) Menstrual disorder (2) Nipple pain	(9, 81) (2, 18)	Root Leaves
6.	*Amaranthus viridis L.* Family: Amaranthaceae Local Name: Chengkruk	(1) Leucorrhoea (2) Postpartum delivery pain	(2, 28) (5, 71)	Root Leaves
7.	*Amaranthus spinosus L.* Family: Amaranthaceae Local Name: Chengkruk tinkhangpambi	(1) Leucorrhoea (2) Gonorrhoea (3) Contraceptive	(2, 22) (4, 44) (3, 33)	Leaves Leaves Whole plant
8.	*Andrographis paniculata Well Ex. Nees* Family: Acanthaceae Local Name: Vubati	(1) Menstrual disorder (2) Contraceptive	(3, 23) (10, 76)	Whole plant Whole plant
9.	*Ananas comosus L.* Family: Bromeliaceae Local Name: Kihom	(1) Abortion (2) Contraceptive	(6, 66) (3, 33)	Fruit Leaves
10.	*Aphanamixis polystachya (Well.) R.parker* Family: Meliaceae Local Name: Heirangkhoi	(1) Leucorrhoea (2) Sex tonic	(3, 42) (4, 57)	Bark Bark
11.	*Artocarpus heterophyllus Lamk.* Family: Moraceae Local Name: Theibong	(1) Menorrhagia (2) Improve fertility in women (3) Gonorrhoea	(8, 25) (12, 37) (12, 37)	Bark Fruit Root
12.	*Asparagus racemosus Wild.* Family: Asparagaceae Local Name: Nungarei	(1) Lactagogue (2) Menorrhagia	(4, 33) (8, 57)	Tuber Root
13.	*Blumea aromatic DC.* Family: Asteraceae Local Name: Lei kham-man	(1) Leucorrhoea (2) Post partum delivery pain	(41, 93) (3, 6)	Leaves Seed
14.	*Bombax ceiba L.* Family: Bombaceae Local Name: Tera	(1) Abortion (2) Antifertility	(7, 36) (12, 63)	Bark Root
15.	*Caesalpinia bonduc (L) Roxb* Family: Lamiaceae Local Name: Tinshibi	(1) Leucorrhoea (2) Menstrual disorder	(9, 81) (2, 18)	Seed Leaves

16.	*Calotropis giganta (L.) oxy and* Family: Asclepiadiaceae Local Name: Angkot	(1) Antifertility (2) Abortion	(7, 58) (5, 41)	Leaves Seed
17.	*Carica papaya L.* Family: Caricaceae Local Name: Awathabi	(1) Abortion (2) Antifertility	(15, 78) (4, 21)	Fruit Seed
18.	*Catharanthus roseus (L) G.Don* Family: Apocynaceae Local Name: Saheb-lei	(1) Leucorrhoea (2) Menorrhagia	(7, 53) (6, 46)	Leaves Leaves
19.	*Coix lacryma-jobi L.* Family: Poaceae Local Name: Channing	(1) Contraceptive (2) Menstrual disorder	(6, 54) (5, 45)	Petiole Root
20.	*Cynodon dactylon L. pers* Family: Poaceae Local Name: Tingthou	(1) Irregular menstruation (2) Leucorrhoea	(3, 27) (8, 72)	Whole Plant Leaves
21.	*Dioscorea alata L.* Family: Dioscoreaceae Local Name: Haa	(1) Gonorrhoea (2) Contraceptive	(5, 35) (9, 64)	Tuber Leaves
22.	*Erythrina variegata L.* Family: Fabaceae Local Name: Korao angangba	(1) Amenorrhoea (2) Antifertility	(3, 60) (2, 40)	Root Seed
23.	*Eupatorium odoratum L.* Family: Asteraceae Local Name: Kombirei	(1) Gonorrhoea (2) Lactagogue	(42, 93) (3, 6)	Leaves Root
24.	*Euphorbia hirta L.* Family: Euphorbiaceae Local Name: Pakhongmaton	(1) Lactagogue (2) Antifertility	(2, 25) (6, 75)	Whole plant Leaves
25.	*Ficus religiosa L.* Family: Moraceae Local Name: Sana khongaang	(1) Leucorrhoea (2) Contraceptive	(2, 22) (7, 77)	Leaves Bark
26.	*Hedychium marginatum* C.B. Clarke Family: Zingiberaceae Local Name: *Takhelei amangba*	(1) Leucorrhoea (2) Lactagogue	(5, 31) (11, 68)	Rhizome Shoot
27.	*Indigofera tinctoria* L. Family: Fabaceae Local Name: *Lam mangra*	(1) Amenorrhoea (2) Nipple pain	(9, 69) (4, 30)	Whole plant Leaves
28.	*Justicia adhatoda* L. Family: Acanthaceae Local name: *Nongmakha angouba*	(1) Leucorrhoea (2) Irregular menstruation	(8, 72) (3, 27)	Root Leaves
29.	*Mimosa pudica L.* Family: Mimosaceae Local Name: *Kangphal ikeithabi*	(1) Leucorrhoea (2) Antifertility	(8, 53) (7, 96)	Leaves Root
30.	*Musa paradisiaca L.* Family: Musaceae Local Name: *Lafu*	(1) Lactagogue (2) Menorrhagia	(7, 77) (3, 33)	Stem Stem
31.	*Mesua ferrea* L. Family: Clusiaceae Local Name: *Nageshor*	(1) Leucorrhoea (2) Menorrhagia	(4, 50) 4, 50)	Flower Bark
32.	*Nerium indicum* Mill Family: Apocynaceae Local Name: *Kabirei*	(1) Abortion (2) Antifertility	(7, 77) (2, 22)	Root Root
33.	*Phyllanthus amarus* Schumach & Thonn. Family: Euphorbiaceae Local Name: *Chakpa heikru*	(1) Menstrual disorder (2) Gonorrhoea (3) Menorrhagia	(2, 18) (4, 36) (5, 45)	Whole plant Root Leaves
34.	*Ricinus communis* L. Family: Euphorbiaceae Local Name: *Kege*	(1) Antifertility (2) Contraceptive	(9, 69) (4, 30)	Seed Seed
35,	*Solanum torvum SW.* Family: Solanaceae Local Name: *Sing khanga*	(1) Irregular (2) Abortion	(4, 57) (3, 42)	Root Root

Table 4. Diseases with FIC values

Sl. No.	Name of the disease	Value of nur	Value of nt	FIC
1.	Abortion	43	6	0.88
2.	Amenorrhoea	12	2	0.91
3.	Antifertility	49	8	0.85
4.	Contraceptive	42	7	0.85
5.	Gonorrhoea	67	5	0.94
6.	Immunity booster after delivery	3	1	1.00
7.	Improve fertility in woman	12	1	1.00
8.	Irregular menstruation	10	3	0.78
9.	Lactagogue	27	5	0.85
10.	Leucorrhoea	109	14	0.88
11.	Menorrhagia	39	7	0.84
12.	Menstrual disorder	21	5	0.80
13.	Nipple pain	6	2	0.80
14.	Postpartum delivery pain	23	4	0.86
15.	Sex tonic	4	1	1.00
16.	Timely delivery of child	8	1	1.00
17.	Women disease	5	1	1.00

Table 5. Arrangement of plants with highest values of FIC based on decreasing value of FL

Sl. No.	Name of the plant species	FL	Fic	Name of disease	No. of informant for the plant
1.	*Eupatorium odoratum* L.	93	0.94	Gonorrhoea	42
2.	*Blumea aromatica* DC	93	0.88	Leucorrhoea	41
3.	*Aloe vera* (L.) Burm.f	81	0.80	Menstrual disorder	9
4.	*Caesalpinia bonduc* (L.) Roxb.	81	0.88	Leucorrhoea	9
5.	*Carica papaya* L.	78	0.88	Abortion	15
6.	*Musa paradisiaca* L.	77	0.85	Lactagogue	7
7.	*Nerium indicum* Mill	77	0.88	Abortion	7
8.	*Ficus religiosa* L.	77	0.85	Contraceptive	7
9.	*Andrographis paniculata* Wall ex. Nees	76	0.85	Contraceptive	7
10.	*Euphorbia hirta* L.	75	0.85	Antifertility	6
11.	*Cynodon dactylon* L. Pers	72	0.88	Leucorrhoea	8
12.	*Justicia adhatoda* L.	72	0.88	Leucorrhoea	8
13.	*Indigofera tinctoria* L.	69	0.91	Amenorrhoea	9
14.	*Ricinus communis* L.	69	0.85	Antifertility	9
15.	*Hedychium marginatum* C.B. Clarke	68	0.85	Lactagogue	11
16.	*Ananas comosus* L.	66	0.88	Abortion	6
17.	*Ageratum conyzoides* L.	64	0.86	Postpartum delivery pain	9
18.	*Dioscorea alata* L.	64	0.85	Contraceptive	9
19.	*Bombax ceiba* L.	63	0.85	Antifertility	12
20.	*Allium ascalonicum* L.	62	1.00	Woman disease	5
21.	*Achyranthes aspera* L.	61	1.00	Timely delivery of child	8
22.	*Erythrina variegata* L.	60	0.91	Amenorrhoea	3
23.	*Calotropis gigantea* (L.) Dryand	58	0.85	Antifertility	7
24.	*Aphanamixis polystachya* (Wall.) R.N. Parker	57	1.00	Sex tonic	4
25.	*Solanum torvum* Sw	57	0.78	Irregular menstruation	4
26.	*Asparagus racemosus* Sw	57	0.84	Menorrhagia	8
27.	*Abrus precatorius* L.	54	0.86	Post partum delivery pain	6
28.	*Coix lacryma-jobi* L.	54	0.85	Contraceptive	6
29.	*Mimosa pudica* L.	53	0.88	Leucorrhoea	8
30.	*Catharanthus roseus* (L) G. Don	53	0.88	Leucorrhoea	7
31.	*Mesua ferrea* L.	50	0.88	Leucorrhoea	4
32.	*Mesue ferrea* L.	50	0.84	Menorrhagia	4

DISCUSSION

From the above (Table No. 2,3,4,5) it was found that *Aloe vera* for menstrual disorder and *Caesalpinia bonduc* for Leucorrhoea have the same value of FL (93) and same informant no. of 9 and the FIC value of *Aloe vera* is 0.80 and the Fic value of *Caesalpinia bonduc* is 0.88. *Bur Aloe vera* is placed in higher than *Caesalpinia bonduc* because *Aloe vera* has a smaller number of taxa (5) when compared to *Caesalpinia bonduc* (14).

The FIC value of *Caesalpinia bonduc* for Leucorrhoea and *Carica papaya* for abortion have same value of 0.88 each and have same informant numbers of 9 each but *Caesalpinia bonduc* is placed in higher position than *Carica papaya* because of high value of FL that is 78 when compared to *Carica papaya* which have FL value of 78. The FL value of *Musa paradisiaca* for Lactagogue, *Nerium indicum.* For abortion and *Ficus religiosa* for contraceptive are same which are of 77 each and have the same informant number of 7 each but

Musa paradisiaca is placed in higher position than *Nerium indicum* and *Ficus religiosa* because of least number of taxa that is of 5 when compared to *Musa paradisiacal* L. and *Ficus religiosa* which are of 6 and 7.

The FIC value for woman diseases of *Allium ascalonicum*, *Achyranthes aspera* and *Aphanamixis polystachya* are 1.00 each, however, these plants are placed in lower position because of lower FL value. *Mesua ferrea* possess FL value 50 and FIC value of 0.88 for Leucorrhoea and are included in the position which are being supported by only 4 informants each. In general observation, there is a correlation amongst the values of number of informants, value of FL and FIC. Higher the values of all these three show the degree of agreement for general use of plants in the treatment of disease.

The From present study it was found that almost 90% of the data can be considered correct when the presumption that higher the value of FL and FIC, there will be more positive agreement for the probability and reasonable of the plant species against other respective disease. The present study reveals that overall, 17 different women ailments are being treated with a total of 35 plants species belongs to 54 general that are distributed over 23 families. It was found that the Amaranthaceae, Asteraceae, Euphorbiaceae and Fabaceae was the most dominant among all other families followed by Apocynaceae, Acanthaceae, Moraceae and Poaceae (Fifure 2).

Eupatorium odoratum L. shows the highest number of informant (42) for Gonorrhoea which have FL value of 93 and FIC value of 0.94 followed by *Blumea aromatica* DC which have 42 informants and living FL value of 93 and FIC value of 0.88 for Leucorrhoea *Mesue ferrea* L. possess Fl value of 50 and FIC value of 0.84 for Leucorrhoea and are included in the last portion Which are being supported by only 4 informants. Plants used by the *Meitei* community for the treatment of woman health-care with their family and plant part used highest in leaves (31.51%) and lowest in flower, rhizome, petiole, shoot (1.37%) are very much corelated (Figure 2). It will also be very helpful for further research in the production of pharmacological studies future (Dutta and Dutta, 2005, Hamil *et al.*, 2000).

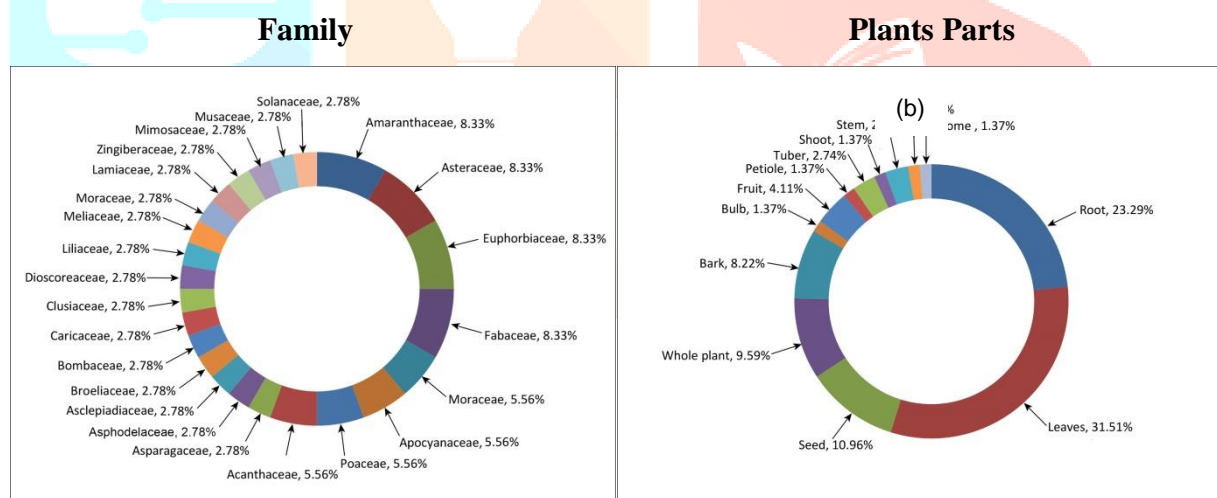**Graph of Family and Plant part**

Figure 2. (a) Plant family used by the *Meitei* community for the treatment of woman health care and (b) Plant Part used by the *Meitei* community for the treatment of woman health care

CONCLUSION

Meiteis have a rich ethnobotanical and ethnotherapeutic knowledge, which was practiced by the Folk Healers commonly known as *Maibas* (Man-folk) and *Maibees* (Female-folk) for curing various types of ailments by administering the wild medicinal herbs. *Maibees,* are also midwives, who are engaged during delivery of child commonly called (*Mayoknabee*) and elderly women are the main practitioners for womenfolk's ailments (Devi, *et al.*, 2015). They talked freely about disorders, in the matter of fertility, leucorrhoea, gonorrhoea, etc. The importance of traditional medicines has been realized worldwide as many of them proved to be very effective. This work also gives scope for appropriate scientific studies on the phytochemical and pharmacological activities of the recorded plants for drug design Devi, *et al.* (2015).

The traditional healers of Manipur used various traditional medicinal plants for treating various women ailments, however, with the introduction and use of allopathic medicinal practices, the traditional knowledge for health treatment of women has been gradually declining day by day. This study provides comprehensive information about the traditional knowledge of medicinal plants used in the various women ailments. So, in order to preserve the indigenous knowledge and usefulness of these medicinal plants, there is an urgent

need to explores, document these medicinal plants for future research and help in importing knowledge to the local people for the need to conserved for future generation.

The present study provides useful information about Ethno-gynaecological information about the uses of medicinal plants used by the local *Meitei* community of Bishnupur district, Manipur in the treatment of different women related ailment. The plants with the highest use values could be employed in pharmacological research and biotechnological approaches for the future prospect. These findings will be helpful to determine the most effective individual plant and remedies towards the developments and production of new drugs for the future.

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