Traditional plants used for the treatment of gynaecological disorders in Vedaranyam taluk, South India - An ethnomedicinal survey

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1. Introduction

Gynaecology or gynecology is the medical practice dealing with the health of the female reproductive system (uterus, vagina and ovaries). Gynaecology is an important branch which deals with the treatment of ailments among rural women for example abortion, menstrual trouble, menopausal syndrome, morning sickness, leukorrhea, anti-fertility, delivery problem, etc.1 Socio economic conditions force many women's seek abortion. In countries where abortion is illegal or where the health system can't provide sufficient care, women are left with option of inducing abortion as illegal. Induced abortion was defined as purposely causing miscarriage.2

According to WHO3 'The health care of women is Crucial'. Women who live in hamlets economically and educationally very, very poor. Generally pregnant women of rural areas prefer a skilled village midwife to gynaecologist for delivery. It is not possible for them to go to the healthcare and multispecialty centers owing to distance and inadequacy of money. Traditional birth attendants (TBA) provide the majority of primary maternity care in many developing countries. In India, TBA have provide basic healthcare, support and advice during and after pregnancy and child birth, based primary on experience and knowledge acquired infirmly through the tradition and practice of the community where they originated. They usually work in rural, remote and other medically underserved areas.

Approximately 80% of world population depends on traditional herbal medicine for primary healthcare as plant and plant based medication in the base of many of the today's pharmaceutical drugs used for various ailments.4 In India almost 95% of medications are plant based formulations from the traditional system of Unani, Ayurveda, Homeopathy and Siddha and their associate material.
largely depended on wild harvested plants.5

Herbal medication hold highly reputational position in the developing countries like India and China becoming popular among people of both urban and rural areas to their safety, efficacy and affordability. Almost 8,000 plant species are registered for their ethnomedicinal importance and traditional knowledge based formulations or indigenous traditional medicine has played an elementary role in the innovation of novel healthcare products from plants.7

Many ethnobotanical studies have been carried out on the medicinal use of herbal plants but very few quantitative studies have been performed on the use of traditional remedies for gynaecological care. Fortunately, the tradition of using traditional remedies to treat female healthcare problem is still very much alive. However these traditional remedies have not been thoroughly documented. The creation of nuclear families where grand mothers are absent, migration to cities easy availability of synthetic drugs and access to primary health care are some of the reasons for the loss of traditional knowledge about traditional remedies. In this study, we have documented the traditional knowledge on plants used for treating gynaecological disorders.

2. Materials and methods

2.1. Selection of traditional practitioners

The population of the Vedaranyam (Taluk), Nagapattinam district is around 8 sites in our study total of 2, 15,653 (Males-1, 07, 007; Females-1, 08, 646) peoples were lived (http://en.wikipedia.org/wiki/Vedaranyam_taluk). The informants or traditional practitioners were selected based on their knowledge of medicinal plants in the study area. The practitioners who had been practicing for more than 5 years were included in the survey. In the first visit, the purpose and nature of the project were explained to each practitioner in a simple language, to get prior informant consent. After establishing a clear consent from them, formal interviews were conducted from the second visit onwards. In this study, 120 traditional healer medical practitioners were included and their knowledge on medicinal plants was gathered. The interviews were conducted in the local language ‘Tamil’ and the documentation of the data in the field was also done in the local language. Successive free listing was the method adopted for the interview.9 The interview consisted of two parts. The first part dealt with the demographic profile of the informants which included the name, gender, age, professional experience, educational status and occupation (Appendix A). The second part dealt with their medicinal plant knowledge (Appendix B). The informants were asked to describe the medicines that were given by them with their mode of usage. The details regarding the parts used, mode of preparing the medicine and solvent used for administration in this part. Furthermore, the informants were asked to describe the symptomatology of illnesses.

2.2. Investigation sites

The study area was investigated to get information from local traditional practitioners having practical knowledge of medicinal plants were interviewed in 8 villages of Kallimedu, Kodia kadu, Kuravap palam, Marthur south, Nakudaiyan, Panjanadhikulam east, Periakuthakai and Putpavanam, Vedaranayam (taluk), Nagappattinam (dt), Tamil Nadu, India (Fig. 1). The field surveys were conducted between January 2014 and January 2015 in Vedaranayam taluk of Nagappattinam district. A total of 365 field days was spent together the data. Methods of selecting informants depended upon the distribution of local people having sound knowledge. They were requested to collect specimens of the plants they know or to show the plant species on site. These informants were traditional practitioners themselves or had tradition of healing in their families and had knowledge of the medicinal use of the plants. The wealth of medicinal plant knowledge among the people of this district is based on hundreds of years of beliefs and observations.

2.3. Preservation of plant specimens

Standard method was followed with record to collection of plant materials, drying, mounting, preparation and preservation of plant specimens.3 Voucher specimens of medicinal plants in triplicate were collected, prepared and identified. Plants with their correct nomenclature were arranged alphabetically by family name, vernacular name, ethno medicinal uses and other applications. The identification and nomenclature of the listed plants were based on the Flora of Presidency of Madras10 and the Flora of Tamil Nadu Carnatic.11 They were later verified at Botanical Survey of India, Southern Circle, Coimbatore, India. All the preserved specimens were deposited at the Herbarium of A.V.V.M.S.P. College (Pushpam Herbarium Cabinet (PHC), Poondi.

2.4. Quantitative analysis

2.4.1. Relative frequency citation (RFC)

This index used here is the relative frequency of citation (RFC). This index is obtained by dividing the number of informants mentioning a useful species (FC or frequency of citation), by the total number of informants in the survey (N), RFC value varies from 0 (when nobody refers to a plant as a useful one), to 1 (when all the informants mentioning it as useful).12 RFC index, which does not consider the use-category (UR or use-report is a single record for use of a plant mentioned by an individual) and RFC calculated by the following formula:

\[
\text{RFC}_i = \frac{\text{FC}_i}{N} = \frac{\sum_{i=1}^{N} \text{UR}_i}{N}
\]

2.4.2. Cultural importance index (CI)

The second approach used in our study is the cultural importance index (CI). This index is calculated by the sum of the proportion of informants mentioning each species use (i.e. the sum of the number of participants who mention the use of each species divided by the total number of informants (N). This index is calculated by the following formula:

\[
\text{CI} = \frac{\sum_{u=1}^{u} \sum_{i=1}^{N} \text{UR}_u}{N}
\]

This index takes into account the spread of the use (number of informants) for each species along with its versatility, i.e. the diversity of its applications.12

2.4.3. Use value (UV)

The Use Value (UV) demonstrates the relative importance of plants known locally. It was calculated using the following formula.11

\[
\text{UV} = \sum_{i=1}^{N} \text{UI}_i / N
\]

where \( \text{UI}_i \) is the number of uses mentioned by each informant for a given species and \( N \) is the total number of informants.
2.4.4. Informant consensus factor

The informant consensus factor (ICF) was used to see if there was agreement in the use of plants in the ailment categories between the plant users in the study area. The ICF was calculated using the following formula:

\[
ICF = \frac{N_{ur}}{N_t} / (\frac{N_{ur}}{N_t} - 1)
\]

where Nur refers to the number of use-reports for a particular ailment category and Nt refers to the number of taxa used for a particular ailment category by all informants. The product of this factor ranges from 0 to 1. A high value (close to 1.0) indicates that relatively few taxa are used by a large proportion of the informants. A low value indicates that the informants disagree on the taxa to be used in the treatment within a category of illness.

3. Results

Face to face interviews were conducted for resolving and registering demographic characteristics of respondents. Among the practitioners the age groups of 30–83 was very high compared to other groups. Around 6.66% of practitioners were below thirty years old. There was no equal dividends as far as male-female ratio concern (Table 1). The ethnobotanical survey permitted the sampling of 66 plants species, belonging to 62 genera and 44 families were recorded (Table 2). The most represented family was Fabaceae has the high number of species (5) followed by Malvaceae and Cucurbitaceae with each four species, Lamiaceae, Euphorbiaceae and Moraceae with three species each (Table 3). In the current survey, 37% of the reported species are herb. Other highly reported species are tree (28%), climber (21%) and shrub (14%) (Fig. 2). Plant parts

| Demographic features | Number of people | Percent (%) |
|----------------------|------------------|-------------|
| **Age**              |                  |             |
| 30 years             | 8                | 6.66%       |
| 31–40                | 20               | 16.66%      |
| 51–60                | 30               | 25.00%      |
| 61–70                | 35               | 29.16%      |
| 71–80                | 16               | 13.33%      |
| Above-81             | 11               | 9.16%       |
| **Gender**           |                  |             |
| Men                  | 68               | 56.66%      |
| Women                | 52               | 43.34%      |
| **Education**        |                  |             |
| Uneducated           | 47               | 39.16%      |
| Primary school       | 13               | 10.83%      |
| Secondary school     | 24               | 20.00%      |
| High school          | 11               | 9.16%       |
| Degree               | 16               | 13.33%      |
| Diploma              | 9                | 7.50%       |
| **Occupation**       |                  |             |
| Self employs         | 35               | 29.16%      |
| Government employs   | 17               | 14.16%      |
| **Cattle drovers**   |                  |             |
| a. Goat              | 43               | 35.83%      |
| b. Cow               | 15               | 12.50%      |
| c. Pig               | 10               | 8.33%       |

Table 1
Demographic profile of the informants included in the survey (N = 120).

Fig. 1. Investigation sites.
| No. | Botanical name, family & voucher no. | Vernacular name | Life form | Parts used | IP | Illness treated with no. of IR in each illness | Total no. of UR | RFC | CI Value | Use Value | Preparations | Solvents used for administration | Reported Literatures |
|-----|-----------------------------------|----------------|----------|------------|----|---------------------------------------------|----------------|------|----------|-----------|--------------|---------------------------------|----------------------|
| 1.  | Abrus precatorius L. (Fabaceae) PHC-1305 | Kundumani (Kundumani) | Climber Seed | 50 | Painful bleeding (IR:36) | 36 | 0.416 | 0.720 | 0.300 | Powder | Mixed with Hot water, then taken orally during pain. | 34 |
| 2.  | Abutilon indicum, G. Don. (Malvaceae) PHC-1321 | Thuththi (Thuththi) | Herb Seed | 80 | Amenorrhoea: Absence of menstrual period during the reproduction days (IR:67) | 67 | 0.666 | 0.837 | 0.558 | Powder | Dried seed powder mixed with ordinary water, then taken orally on every morning for 3 days. | Not reported |
| 3.  | Acacia farnesiana L. (Mimosaceae) PHC-1340 | Kasthurivel (Kasthurivel) | Tree Bark | 94 | Leucorrhoea: White discharge from the reproductive organ (IR:87) | 134 | 0.783 | 1.425 | 1.116 | Powder | Mixed with Hot water then taken orally | 34 |
| 4.  | Achyranthes aspera L. (Amaranthaceae) PHC-1354 | Nayuruvi (Nayuruvi) | Herb Root | 92 | Easy delivery: Less pain delivery during delivery time (IR:92) | 246 | 0.766 | 2.673 | 2.050 | Powder Decoction Decoction | Mixed with water, then taken orally before delivery. Dried leaves boiled with water, then filter the decoction and taken orally on early morning for 3 days. Same as above preparation method. But, it is taken during suffer from the painful menstruation | 37 |
| 5.  | Aloe vera L. (Liliaceae) PHC-1311 | Kaththalai (Kaththalai) | Herb Leaves | 83 | Uterine disorders: Irregular periods and excessive pain during menstrual periods (IR:73) | 126 | 0.691 | 1.518 | 1.050 | Juice Juice | Mixed with 12 h rice soaked water, then taken orally on 3–5 days in the early morning. Taken fresh juice at the time of bleedings | 38 |
| 6.  | Adathoda vasica. Nees. (Acanthaceae) PHC-1360 | Aadathodai (Aadathodai) | Shrub Root | 103 | Easy delivery: Less pain delivery during childbirth (IR:81) | 81 | 0.858 | 0.786 | 0.675 | Decoction | Dried leaves boiled with water, then filter the decoction and taken orally | 23 |
| 7.  | Annona squamosa L. (Annonaceae) PHC-1353 | Seethha (Seethha) | Tree Root | 64 | Abortion: Avoid unnecessary pregnancy without any effects (IR:36) | 36 | 0.533 | 0.562 | 0.300 | Powder | Mixed with water, then taken orally during pregnancy | 34 |
| 8.  | Aristolochia indica L. | Eeswaramuli (Eeswaramuli) | Climber Root Stem | 89 | Menstrual disorders: Irregular menstrual periods (IR:83) | 132 | 0.741 | 1.483 | 1.100 | Powder Decoction | Mixed with ordinary water, then taken orally in the daily early morning 3–7 days | 34 |
| 9.  | Asparagus racemosus Wild. (Asparagaceae) PHC-1330 | Anmalkodi (Anmalkodi) | Climber Root Stem | 112 | Lactation: To increase breast milk secretion during the deficiency of milk on the time of | 217 | 0.933 | 1.937 | 1.808 | Powder Paste Paste | Mixed with honey in paste formation, then taken orally for 5–7 days. Dried leaves boiled with | 34 |
| No. | Botanical name, family & voucher no. | Vernacular name | Life form | Parts used | IP | Illness treated with no. of IR in each illness | RFC | CI Value | Use Value | Preparations | Solvents used for administration | Reported Literatures |
|-----|-------------------------------------|-----------------|-----------|------------|----|---------------------------------------------|------|----------|-----------|-------------|---------------------------------|----------------------|
| 10. | *Azadirachta indica* A.Juss., (Meliaceae) PHC-1306 | Vaembu (Vaembu) | Tree | Fruit Bark | 184 | 0.991 | 1.546 | 0.975 | Paste | Decoction | Powdered fruit mixed with water, then filter the decoction and mixed ghee. Later, this product taken orally for 28 days. Dried leaves boiled daily with water, then filter the decoction and taken orally. |
| 11. | *Benincasa cerifera*, L. (Cucurbitaceae) PHC-1341 | Poosani (Poosani) | Climber | Fruit | 59 | 0.641 | 0.766 | 0.491 | Juice | - | Not Reported |
| 12. | *Borassus flabellifer* L. (Arecaceae) PHC-1322 | Nungu (Nungu) | Tree | Male Inflorescence Root | 219 | 0.883 | 2.066 | 1.825 | Powder | Paste | Fine powdered flower mixed with milk, then drink empty stomach. Fresh root grinds paste form, then taken orally |
| 13. | *Boerhavia diffusa* L. (Nyctaginaceae) PHC-1320 | Mookarattai (Mookarattai) | Shrub | Whole plant Root | 70 | 0.483 | 1.206 | 0.583 | Decoction | Paste | Dried leaves boiled with water, then filter the decoction for a drink during reproductive problem. Fresh root grinds paste form, then eaten. |
| 14. | *Calotropis gigantea* (L.) R. Br. ex Schult (Apocynaceae) PHC-1312 | Erulkku (Erulkku) | Shrub | Root Latex | 115 | 0.625 | 1.533 | 0.958 | Decoction | Raw | Dried root is boiled well until to extract the decoction, then orally. Latex mixed with coconut oil, then apply topically. |
| 15. | *Cardiospermum halicacabum* L. (Sapindaceae) PHC-1331 | Mudakkaththaan (Mudakkaththaan) | Climber | Leaves | 63 | 0.533 | 0.984 | 0.525 | Decoction | - | Dried bark is boiled in water until extract decoction well, then drink morning. |
| 16. | *Catharanthus roseus* (L.) G.Don. (Apocynaceae) PHC-1323 | Nithyakalyani (Nithyakalyani) | Herb | Leaves | 173 | 0.825 | 1.747 | 1.441 | Juice | - | Fresh leaves crushed until extracts juice, then mixed with honey and drink. |
| No. | Common Name | Scientific Name | Part | Condition(s) | Preparation | Details |
|-----|-------------|-----------------|------|--------------|-------------|---------|
| 17. | Ceiba pentandra (L.), Gaertn. (Malvaceae) | Ceiba pentandra (L.), Gaertn. (Malvaceae) | Tree Root | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Paste | Fresh root grinds paste and add sugar, then taken orally |
| 18. | Centella asiatica (L.) Urban. (Apiaceae) | Centella asiatica (L.) Urban. (Apiaceae) | Tree Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 19. | Cissus quadrangularis L. (Vitaceae) | Cissus quadrangularis L. (Vitaceae) | Climber Stem | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Fresh stem juice drinks daily 7–12 days morning empty stomach |
| 20. | Cleome viscosa, L. (Capparidaceae) | Cleome viscosa, L. (Capparidaceae) | Tree Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 21. | Clitoria ternatea L. (Fabaceae) | Clitoria ternatea L. (Fabaceae) | Climber Root | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 22. | Coccinia indica, L. (voigt) (Cucurbitaceae) | Coccinia indica, L. (voigt) (Cucurbitaceae) | Tree Seed | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 23. | Commelina bengulensis, L. (Commelinaeae) | Commelina bengulensis, L. (Commelinaeae) | Tree Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 24. | Convolvulus gemellus. L. (Convolvulaceae) | Convolvulus gemellus. L. (Convolvulaceae) | Climber Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 25. | Cucurbita maxima, L. (Cucurbitaceae) | Cucurbita maxima, L. (Cucurbitaceae) | Tree Seed | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 26. | Cyclea peltata. Arn. ex wight (Menispermaceae) | Cyclea peltata. Arn. ex wight (Menispermaceae) | Tree Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 27. | Cynodon dactylon, Pers. (Poaceae) | Cynodon dactylon, Pers. (Poaceae) | Tree Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |
| 28. | Curculigo orchioides S. Gaert. (Amaryllidaceae) | Curculigo orchioides S. Gaert. (Amaryllidaceae) | Tree Leaves | Gonorrhoea: Control the painful urination and white discharge (IR:61) | Juice | Hand amount of leaves grinds well and mixed water until change like juice, then drink |

(continued on next page)
| No. | Botanical name, family & voucher no. | Vernacular name | Life form | Parts used | IP | Illness treated with no. of IR in each illness | Total no. of UR | RFC | CI Value | Use Value | Preparations | Solvents used for administration | Reported Literatures |
|-----|-----------------------------------|----------------|----------|-----------|----|---------------------------------------------|----------------|-----|----------|-----------|--------------|-------------------------------|---------------------|
| 30. | Phyllanthaceae (Phyllanthus) PHC-1343 | Euphorbia heterophylla, L. (Euphorbiaceae) PHC-1356 | Paal perukki ( описание) | Herb | Leaves | 86 | Lactation: To increase breast milk secretion during the deficiency of milk on the time of feeding to the child (IR:81) | 81 | 0.716 | 0.941 | 0.675 | Paste | 75gm of dried powder is boiled with water until the extraction of decoction. Then the decoction mixed with Cow milk and taken orally | 23 |
| 31. | Euphorbiaceae (Euphorbia) PHC-1350 | Euphorbia hirta L. (Euphorbiaceae) | Chithrapaladai ( описание) | Herb | Leaves | 44 | Lactation: To increase breast milk secretion during the deficiency of milk on the time of feeding to the child (IR:32) | 32 | 0.366 | 0.727 | 0.266 | Decoction | 4-5 healthy, fresh leaves crushed and collected the juice, then drink | 40 |
| 32. | Rutaceae (Feronia) PHC-1325 | Feronia elephantum, Corr. (Rutaceae) PHC-1325 | Vilaa ( описание) | Tree | Latex | 72 | Menorrhagia: Excessive level of blood flow with long days and Leucorrhoea: White discharge from the female reproductive organs (IR:71) | 71 | 0.600 | 0.986 | 0.591 | Powder | Latex mixed honey, then drink | 34 |
| 33. | Moraceae (Ficus) PHC-1338 | Ficus benghalensis L. (Moraceae) | Aalam ( описание) | Tree | Stem | 53 | Leucorrhoea: White discharge from the female reproductive organs (IR:50) | 122 | 0.441 | 2.301 | 1.016 | Paste Decoction | Powder | 50gm of dried stem bark grinds to fine powder and make a paste with honey, then taken orally | 34 |
| 34. | Moraceae (Ficus) PHC-1333 | Ficus racemosa L. (Moraceae) | Aththi ( описание) | Tree | Bark | 78 | Contraceptive: To avoid the unnecessary pregnancy (IR:72) | 114 | 0.650 | 1.461 | 0.950 | Juice | Fresh bark juice taken orally | 37 |
| 35. | Moraceae (Ficus) PHC-1308 | Ficus religiosa L. (Moraceae) | Arasam ( описание) | Tree | Bark | 51 | Gonorrhoea: Control the painful urination and white discharge (IR:42) | 77 | 0.425 | 1.509 | 0.641 | Paste Decoction | Fresh bark grinds paste and taken orally | 34 |
| 36. | Aizoaceae (Clinus) PHC-1344 | Clinus latoides, Roell. (Aizoaceae) | Siruseruppadai ( описание) | Herb | Root | 65 | Gonorrhoea: Control the painful urination and white discharge (IR:50) | 64 | 0.541 | 0.984 | 0.533 | Powder | Dried root powder mixed with honey and taken orally | 23 |
| 37. | Asclepiadaceae (Hemidesmus) PHC-1362 | Hemidesmus indicus R.Br. (Asclepiadaceae) | Nannari ( описание) | Climber | Root | 29 | Lactation: To increase breast milk secretion during the deficiency of milk on the time of feeding to the child | 40 | 0.241 | 1.379 | 0.333 | Paste Powder | Dried root powder mixed with ghee, then stirred until change paste and eaten | 37 |
38. *Hibiscus rosa-sinensis* L. (Malvaceae) PHC-1301

Leucorrhoea: White and yellowish discharge from the female reproductive organs (NI:17)

Abortion (NI:49)

Amenorrhea:
The absence of menstrual period (IR:53)
Over bleeding during menstrual period (IR:39)

Bark grinds to paste and eaten 6-8 fresh leaves grinds to paste and eaten daily morning
Dried root powder mixed with honey and stirred well until change paste, then taken orally
Dried flower boiled with water, then drink

39. *Ixora coccinea* L. (Rubiaceae) PHC-1326

Leucorrhoea: White and yellowish discharge from the female reproductive organs (IR:27)

27 0.241 0.931 0.225 Decoction
Dried flowers boiled with water, then drink

40. *Jasminum angustifolium* (L.) Wild (Combretaceae) PHC-1314

Kaatru maliy (காட்டுமலி) Climb Flower

94 0.783 0.989 0.775 Paste

Fresh flowers knot 6 h in topically in the breast region

41. *Lawsonia inermis* L. (Lythraceae) PHC-1334

Maruthaani (மாறுதாணி) Shrub Leaves

48 0.383 1.565 0.350 Paste

Dried flowers grinds and mixed ghee, then eaten

42. *Leucus aspera* Link. (H) (Lamiaceae) PHC-1318

Thumbai (தும்பை) Herb Leaves

93 0.383 1.565 0.350 Paste

Fresh leaves grinds to paste, then apply topically in breast the region with coconut oil

43. *Lippia nodiflora* Mich. (Verbenaceae) PHC-1357

Poduthalai (போதுதலை) Shrub Leaves

46 0.383 1.565 0.350 Paste

Dried leaves powdered and mixed milk for making paste, then eaten

44. *Madhuca longifolia* (L.) JFMacbr. (Sapotaceae) PHC-1345

Iluppai (இறுப்பை) Tree Leaves

36 Lactation: To increase breast milk secretion during the deficiency of milk at the time of breastfeeding to the child (IR:30)

30 0.300 0.833 0.250 Paste

Fresh leaves grinds to paste, then apply topically in breast the region with coconut oil

45. *Mangifera indica* L. (Anacardiaceae) PHC-1302

Maa (மா) Tree Bark

63 To stop bleeding from uterus (IR:46)
Leucorrhoea: White and yellowish discharge from the female reproductive organs (IR:52)
Decrease breast milk (IR:82)

98 0.525 1.555 0.816 Decoction
Dried bark boiled in water until to extract well, then drink
Seed powder mixed with ghee, then eaten

46. *Marsilea minuta* L. (Marsileaceae) PHC-1349

Aarakkerai (அராக்கரை) Herb Leaves

83 0.691 0.987 0.683 Paste

Fresh leaves grinds to paste and eaten

47. *Mimosa pudica* L. (Mimosaceae) PHC-1327

Thottal sinungi (தொட்டல் சிஙுங்கி) Herb Root

61 Vaginitis (IR:58)
Prevent the excessive menstrual bleeding (IR:45)

103 0.508 1.688 0.858 Paste

Fresh root grinds to well mixed ghee, then eaten

Fresh leaves crushed until

(continued on next page)
| No. | Botanical name, family & voucher no. | Vernacular name | Life form | Parts used | IP | Illness treated with no. of IR in each illness | Total no. of UR | RFC | CI Value | Use Value | Preparations | Reported Literatures |
|-----|-------------------------------------|----------------|-----------|------------|----|-----------------------------------------------|----------------|------|----------|-----------|--------------|----------------------|
| 48. | *Momordica charantia* L. (Cucurbitaceae) PHC-1335 | Pakarkaai (पाकरकाई) | Climber | Leaves | 61 | **Lactation:** To increase breast milk secretion during the deficiency of milk at the time of breastfeeding to the child (IR:56) | 56 | 0.508 | 0.918 | 0.466 | Paste | get juice. Thereafter mixed milk with juice, then drink Fresh leaves grinds to paste and mixed coconut oil, then apply topically in the region of the breast | Suresh et al., 2013 |
| 49. | *Moringa oleifera* Lam. (Moringaceae) PHC-1315 | Murungai (मुरुंगई) | Tree | Root bark leaves leaves | 95 | Treat some sexually transmitted diseases by the pathogenic microorganism (IR:73) Irregular menstrual period and painful bleeding (IR:78) Contraceptive: To avoid the unnecessary pregnancy (IR:73) **Lactation:** To increase breast milk secretion during the deficiency of milk at the time of breastfeeding to the child (IR:83) | 307 | 0.791 | 3.231 | 2.558 | Powder Powder Paste Fumes | Dried root powder mixed with warm milk, then drink Dried bark mixed with honey, then taken orally Fresh leaves fry with Ghee, then taken orally Dried leaves burned with the inside of the pot, then respiratory the fumes |
| 50. | *Musa paradisiaca* L. (Musaceae) PHC-1359 | Vaazhai (வாழை) | Tree | Stem | 52 | **Menorrhagia:** Excessive level of blood flow with long days (IR:46) | 46 | 0.433 | 0.884 | 0.383 | Juice | Stem juice is taken orally in empty stomach |
| 51. | *Nelumbium speciosum*, wild (Nymphaeaceae) PHC-1358 | Thamarai (தமரை) | Aquatic Herb | Seed | 64 | **Leucorrhoea:** White and yellowish discharge from the female reproductive organs (IR:62) **Menorrhagia:** Excessive level of blood flow with long days (IR:46) | 62 | 0.533 | 0.968 | 0.516 | Powder | Dried fruit powder mixed with honey and taken orally in empty stomach at morning |
| 52. | *Ocimum basilicum*, L. (Lamiaceae) PHC-1346 | Thiruneetrupachilai (திருநெற்றுப்பச்சிலை) | Herb | Seed | 89 | **Gonorrhoea:** Control the painful urination and white discharge (IR:82) **Menorrhagia:** Excessive level of blood flow with long days (IR:46) | 82 | 0.741 | 0.921 | 0.683 | Paste | Seed powder is mixed with water and stirred well until change paste, then taken orally |
| 53. | *Ocimum canum* Sims. (Lamiaceae) PHC-1319 | Naathulasi (நாதுலாசி) | Herb | Leaves | 57 | **Gonorrhoea:** Control the painful urination and white discharge (IR:82) **Menorrhagia:** Excessive level of blood flow with long days (IR:46) | 53 | 0.475 | 0.929 | 0.441 | Paste | Dried leaves mixed with Ghee, then taken orally |
| 54. | *Odontonodea Roxb.* Fl. (Anacardiaceae) PHC-1348 | Odhiyam (ஒங்கோயம்) | Tree | Leaves | 64 | **Menorrhagia:** Excessive level of blood flow with long days (IR:46) | 62 | 0.533 | 0.968 | 0.516 | Paste | 3-4 leaves pinched and grind with Milk in paste, then taken orally |
| 55. | *Pedaliun murex* L. (Pedaliaceae) PHC-1303 | Perunerunchil (பெருணூருஞ்சில்) | Herb | Seed | 31 | **Amenorrhoea:** The absence of menstrual period (IR:12) **Menorrhagia:** Excessive level of blood flow with long days (IR:46) | 15 | 0.258 | 0.483 | 0.125 | Powder Juice | Seed powder is mixed with honey and taken orally in early morning daily Small amount of leaves, making juice mixed with water and taken orally Hand amount of dried leaves, making a decoction with water, then taken orally |
| 56. | *Physalis minima* L. (Solanaceae) PHC-1363 | Sodakku thakkali (சோடக்குற்றாக்களி) | Herb | Leaves | 36 | **Lactation:** To increase breast milk secretion during the deficiency of milk at the time of childbirth (IR:83) | 7 | 0.300 | 0.194 | 0.058 | Decoction | Not Reported |
| No. | Plant Name | Common Name(s) | Part Used | RFC  | IP | UR | RFC | CI |
|-----|------------|----------------|-----------|------|----|----|----|----|
| 57. | Saraca asoca (Roxb.) Wilde (Fabaceae) PHC-1328 | Asokam (அசோகம்) | Tree Bark Root | 85 | 135 | 0.708 | 1.588 | 1.125 | Powder Decoction Dried bark powder mixed with Water and then taken orally Boiled root juice taken orally in every morning |
| 58. | Ricinus communis L. (Euphorbiaceae) PHC-1316 | Aamanakkku (அமன்க்கு) | Herb Leaves | 44 | 43 | 0.366 | 0.977 | 0.358 | Juice 1-2 leaves juice taken orally in every morning daily |
| 59. | Rosa damascena, L. (Rosaceae) PHC-1336 | Roja (ரோஜா) | Herb Flower Seed | 65 | 104 | 0.541 | 1.600 | 0.866 | Decoction Powder Dried flower boiled with water, then taken orally Seed powder mixed with Honey, then taken orally |
| 60. | Sesbania grandiflora (L.) Poiret (Fabaceae) PHC-1364 | Agaththi (அகத்தி) | Tree Flower | 18 | 12 | 0.150 | 0.666 | 0.100 | Paste Dried flower is making on paste with Water, then taken orally |
| 61. | Sida acuta Burm. F (Malvaceae) PHC-1352 | Arivaalmanaipoondu (ஆரிவால்மாணைப்பொண்டு) | Herb Root | 20 | 13 | 0.166 | 0.650 | 0.108 | Powder Dried root grinds fine, then taken orally with water |
| 62. | Smilax zeylanica, L. (Liliaceae) PHC-1347 | Kaattukkodi (காட்டுக்கோடி) | Climber Root Leaves | 93 | 262 | 0.775 | 2.183 | 2.183 | Decoction Powder Juice Boiled root decoction taken orally Dried leaves powder mixed with Honey, then taken orally 4–5 fresh leaves crushed and taken juice to drink orally |
| 63. | Tamarindus indica, L. (Caesalpiniaceae) PHC-1317 | Puliyam (புற்றியம்) | Tree Fruit | 34 | 23 | 0.283 | 0.676 | 0.191 | Raw Fresh fruit taken orally |
| 64. | Tephrosia purpurea Pers. (Fabaceae) PHC-1329 | Kattukkolinchil (கட்டுக்கொலின்சில்) | Herb Root | 69 | 67 | 0.575 | 0.971 | 0.558 | Powder Dried root powdered mixed with Honey, then taken orally |
| 65. | Terminalia arjuna W. & A. (Combretaceae) PHC-1337 | Marutham (மாருதம்) | Tree Bark | 53 | 42 | 0.441 | 0.792 | 0.350 | Paste Dried bark powder stirred with water until change paste, then taken orally |
| 66. | Tribulus terrestris, L. (Zygophyllaceae) PHC-1304 | Nerinchil (நெரிச்சில்) | Herb Root | 113 | 92 | 0.941 | 0.814 | 0.766 | Juice Fresh leaves grinds well and make juice, then drink |

IP = informant participants, IR = informant response, UR = use-reports, RFC = relative frequency citation & CI = cultural index.
used by the traditional practitioners of Vedaranyam (taluk) to treat various ailments were mainly leaves, fruits and seeds. Aerial parts of plant and whole plants were also used in case of small herbaceous plants. The most frequently utilized medicinal plants parts were leaves (32%) used for the preparation of medicine solely, it was followed by root (20%), bark (12%), seed (11%), flower (7%), fruit (6%), stem (5%), latex (3%), tuber (2%), whole plant and male inflorescence (each 1%) (Fig. 3). Considering the mode of preparation of herbal medicines, reports include paste, powder, decoction, juice, raw and fumes. Among these major form of the preparation is paste (31%), powder (26%), decoction (19%), juice (17%), raw (6%) and fumes (1%) (Fig. 4). The present study traditional practitioners of this region often add Ghee used as leaves paste and water used as leaves powder (e.g. *Hemidesmus indicus*), paste is made by crushing

### Table 3

| S. No. | Name of the Family | Number of species | Percentage of the species |
|--------|--------------------|-------------------|---------------------------|
| 1.     | Fabaceae           | 5                 | 7.57%                     |
| 2.     | Cucurbitaceae      | 4                 | 6.06%                     |
| 3.     | Malvaceae          | 4                 | 6.06%                     |
| 4.     | Lamiaceae          | 3                 | 4.54%                     |
| 5.     | Euphorbiaceae      | 3                 | 4.54%                     |
| 6.     | Moraceae           | 3                 | 4.54%                     |
| 7.     | Apocynaceae        | 2                 | 3.03%                     |
| 8.     | Anacardiaceae      | 2                 | 3.03%                     |
| 9.     | Combretaceae       | 2                 | 3.03%                     |
| 10.    | Liliaceae          | 2                 | 3.03%                     |
| 11.    | Mimosaceae         | 2                 | 3.03%                     |
| 12.    | Others             | 33                | 51.51%                    |

![Fig. 2. Percentage of life forms on medicinal plants.](image2)

![Fig. 3. Percentage of parts used for gynaecological disorder.](image3)
plant parts using pestle and mortar and when mixing it with ghee and cow milk or salt and honey (e.g. *Hibiscus rosa-sinensis*) The percentage of solvents mixed with the preparations are shown in Fig. 5. Oral administration was the main mode (96%) of intake of medicine followed by external administration (4%) these modes of preparation and administration are the most used in traditional medicine (Fig. 6). A total of 5764 use reports have been documented in these surveys which are categorized in thirty six different ailments. These include Leucorrhoea (12.92%) which is the highest number of records (Table 3). *Moringa oleifera* has the highest number of use-reports (307 UR) in our study followed by *Smilax zeylanica* and *Achyranthes aspera* with 262 and 246 use-reports, respectively, and are placed in first position by CI indices (Table 2). This means that this species has been mentioned by all informants and is the most recognized plant in the region. Also, because of the highest values of these species have the most diverse uses. *Azadirachta indica*, *Tribulus terrestris* and *Asparagus racemosus* which were ranked first by RFC respectively (Table 2). The most commonly used species was *Moringa oleifera* with 307 use reports by 120 informants, giving the highest use value of 2.588 *Moringa oleifera* is attributed to its use in the treatment of various diseases and it is well recognized all the informants as an lactation (Table 2). The Informant consensus factor (ICF) thirty six ailments were shown in Table 5. The most ailment categories have both the highest level of informant agreement (mean ICF = 0.98) and the total consensus (ICF = 1.00) obtained for clot of breast milk, decrease breast milk, delivery pain, promoting sexual desire, Strengthening, To control over bleeding after delivery, To control menstrual cycle, excessive or prolonged menstrual cycle, hasten the delivery, induces sterility in women, induce uterine contraction
during child birth, promote menstruation, stop bleeding from uterus, treat scanty menstruation, over bleeding, excess bleeding, urinary obstruction, urinary tract infection, vaginitis, vulvodynia and weakness during monthly discharge (Table 4). The gynaecological complaints rectified commercial drugs have been induced many side effects of the human body. These drug molecules treated gynaecological complaint have categorized with their side effects in Table 5.

4. Discussion

Regarding the demography of the informants, both dominated middle aged practitioners and non-dominated other workers were documented in our studies. As indicated high male-female ratio, womens role as a traditional medical practitioners was less than male practitioner. Still it remains a male exclusive domain. Even in several previous works with traditional medical practitioners in

| No. | Ailments                                      | \(N_n\) | % of \(U\) | \(N_t\) | % of taxa | ICF | ICF Rank |
|-----|----------------------------------------------|--------|----------|--------|----------|-----|----------|
| 1.  | Abortion                                     | 85     | 1.474    | 2      | 2.020    | 0.99| 2nd      |
| 2.  | Amenorrhea                                   | 233    | 4.042    | 4      | 4.040    | 0.99| 2nd      |
| 3.  | Clot of breast milk                          | 93     | 1.613    | 1      | 1.010    | 1.00| 1st      |
| 4.  | Contraceptive                                | 270    | 4.684    | 4      | 4.040    | 0.99| 2nd      |
| 5.  | Decrease breast milk                         | 82     | 1.422    | 1      | 1.010    | 1.00| 1st      |
| 6.  | Delivery pain                                | 63     | 1.092    | 1      | 1.010    | 1.00| 1st      |
| 7.  | Dysmenorrhea                                 | 219    | 3.799    | 4      | 4.040    | 0.99| 2nd      |
| 8.  | Easy delivery                                | 173    | 3.001    | 2      | 2.020    | 0.99| 2nd      |
| 9.  | Gonorrhea                                    | 616    | 10.08    | 11     | 11.11    | 0.98| 3rd      |
| 10. | Irregular menstruation                       | 305    | 5.291    | 4      | 4.040    | 0.99| 2nd      |
| 11. | Leucorrhoea                                  | 745    | 12.92    | 13     | 13.13    | 0.98| 3rd      |
| 12. | Menorrhagia                                  | 234    | 4.059    | 4      | 4.040    | 0.99| 2nd      |
| 13. | Menstrual disorders                          | 640    | 11.10    | 9      | 9.090    | 0.99| 2nd      |
| 15. | Promoting Sexual Desire                      | 81     | 1.405    | 1      | 1.010    | 1.00| 1st      |
| 16. | Strengthening                                | 43     | 0.746    | 1      | 1.010    | 1.00| 1st      |
| 17. | Control menstrual cycle                      | 117    | 2.029    | 1      | 1.010    | 1.00| 1st      |
| 18. | Control over bleeding after delivery         | 53     | 0.919    | 1      | 1.010    | 1.00| 1st      |
| 19. | Excessive or prolonged menstrual cycle       | 117    | 2.029    | 1      | 1.010    | 1.00| 1st      |
| 20. | Hasten the delivery                          | 18     | 0.312    | 1      | 1.010    | 1.00| 1st      |
| 21. | Induces sterility in women                   | 27     | 0.468    | 1      | 1.010    | 1.00| 1st      |
| 22. | Induce uterine contraction during child birth | 43     | 0.746    | 1      | 1.010    | 1.00| 1st      |
| 23. | Promote menstruation                         | 43     | 0.746    | 1      | 1.010    | 1.00| 1st      |
| 24. | Stop bleeding from uterus                    | 46     | 0.798    | 1      | 1.010    | 1.00| 1st      |
| 25. | Scanty menstruation                          | 12     | 0.208    | 1      | 1.010    | 1.00| 1st      |
| 26. | Over bleeding                                | 137    | 2.376    | 3      | 3.030    | 1.00| 1st      |
| 27. | Lactation                                    | 511    | 8.865    | 11     | 11.11    | 0.98| 3rd      |
| 28. | Excess Bleeding                              | 103    | 1.786    | 1      | 1.010    | 1.00| 1st      |
| 29. | Urinal disorders                             | 96     | 1.665    | 2      | 2.020    | 0.99| 2nd      |
| 30. | Urinary obstruction                          | 85     | 1.474    | 1      | 1.010    | 1.00| 1st      |
| 31. | Urinary tract infection                      | 68     | 1.179    | 1      | 1.010    | 1.00| 1st      |
| 32. | Uterine disorders                            | 157    | 2.723    | 3      | 3.030    | 0.97| 4th      |
| 33. | Vaginitis                                    | 58     | 1.006    | 1      | 1.010    | 1.00| 1st      |
| 34. | Veneroleal diseases                          | 165    | 2.862    | 2      | 2.020    | 0.99| 2nd      |
| 35. | Vulvodynia                                   | 59     | 1.023    | 1      | 1.010    | 1.00| 1st      |
| 36. | Weakness during Monthly discharge            | 92     | 1.596    | 1      | 1.010    | 1.00| 1st      |

**Total** 5764 100% 99 100%
India the same fact was recorded. Mati and De Boer\textsuperscript{15} conducted a study in Kurdish markets and reported that women occupied major part of consumers while men occupied major portion of the sellers of traditional medicine. But as far as our study is concerned, major portion of women involved in traditional medicine perform their service as birth attendants. Though the general figure showed a major portion of the practitioners were uneducated or poorly educated, cattle drovers, many of the young practitioners hold degree/diploma. Some of the practitioners also refer the patients to biomedical doctors/technician store view their health status and they are able to read and understand the reports of some basic lab tests such as blood glucose levels. Some of them are also collecting these reports as a proof efficacy of their treatment. A major portion of the practitioners practice this medicine as a part time job. The consultation charges usually ranged between INR 11—51 and in some cases it was free.

In the present study Fabaceae having high number of plant species recorded. Similarly Prabhu et al\textsuperscript{16} and Prabhu and Vijayakumar\textsuperscript{17} reported the same findings. Fabaceae also known to have the highest number species, more than any other plant family in the world.\textsuperscript{18} The common use of herbaceous medicinal plants was also reported in other parts of the world and attributed to their wide range of bioactive ingredients.\textsuperscript{13,19} Traditional practitioners used herbs and trees most commonly as medicine due to the availability of secondary metabolites.\textsuperscript{25,26} According to the informants, preparation of paste for the

### Table 5

| S. No. | Illness                  | Commercial drugs               | Side effects                                                                 |
|-------|--------------------------|--------------------------------|------------------------------------------------------------------------------|
| 1.    | Amenorrhoea              | Provera oral medroxyprogesterone | Breast Tenderness or Discharge, Hives, Itching, Skin rash, Increased acne, Hair growth, Loss of scalp hair, Spotting changes in menstrual periods, Vaginal Itching or Discharge, Changes in appetite, Increased or Decreased weight, Nausea, stomach pain, Bloating, Fever, Sleep problems and Skin color changes. |
| 2.    | Leucorhoea               | Femorite Capsule tranexamic acid | Nausea, Stomach upset, Skin rash and Acute toxicity                           |
| 3.    | Menorrhagia              | Nitrazia                        | Mild nausea, Vomiting, Bloating, Stomach cramps, Breast pain or tenderness, Freckles or darkening of facial skin, Acne; Problems with contact lenses Vaginal itching or discharge and very light menstrual periods. |
| 4.    | Dysmenorrhoea            | Ibuprofen                       | Upset stomach, Mild heartburn, Nausea, Vomiting, Bloating, Gas, Diarrhoea, Constipation, Dizziness, Headache, Nervousness; Mild itching or rash and Ringing in your ears. |
| 5.    | Uterine disorders        | Naproxen                        | Stomach Pain, Constipation, Diarrhoea, Gas heartburn, Nausea and Vomiting dizziness |
| 6.    | Abortion                 | Carprofest                      | Severe pelvic pain, cramping, or vaginal bleeding, High fever, A light-headed feeling, like you might pass out, Shortness of breath, Severe nausea, Vomiting, or Diarrhoea. |
| 7.    | Over bleeding            | Lynestrenol                     | Increase in vaginal bleeding several days after treatment, Chest pain or tightness, Skin rash, Hives and Difficulty breathing |
| 8.    | Lactation                | Traversic Acid                  | Central Nervous System—Headache, migraine, dizziness, Nervousness, Changes in libido and Mental depression. Genitourinary - Breast tenderness and Pain, Swelling and Abnormal uterine bleeding spotting. |
| 9.    | Excess Bleeding          | Domperidone                     | Headache, Sinus and nasal symptoms, Back pain, Abdominal pain, Musculoskeletal pain, Joint pain, Muscle cramps, Migraine, Anemia and Fatigue. |
| 10.   | Vulvodynia                | Effexor XR                      | Confusion, Numbrness and tingling in your arms and legs, Headache, Constipation or diarrhea, Blurred vision, Headache, breast swelling, dry mouth, loss of balance or coordination. |
| 11.   | Contraceptive            | Elinest                          | Acne; Breast tenderness or enlargement; changes in appetite; changes in weight; dizziness; headache; mild hair loss; nausea; nervousness; stomach cramps or bloating; vaginal spotting or breakthrough bleeding. |
| 12.   | Gonorrhea                | Ceftriaxone                     | Nausea, Vomiting, Upset stomach, Headache, Dizziness, Overactive reflexes, Pain or swelling in your tongue, Sweating, Vaginal itching or discharge |
| 13.   | Menstrual disorder       | Doxycycline                     | Headache, Sinus and nasal symptoms, Back pain, Abdominal pain, Musculoskeletal pain, Joint pain, Muscle cramps, Migraine, Anemia and Fatigue. |
|       | Elinest                  | Yaz tranexamic acid             | Headache, Sinus and nasal symptoms, Back pain, Abdominal pain, Musculoskeletal pain, Joint pain, Muscle cramps, Migraine, Anemia and Fatigue. |

According to the informants, preparation of paste for the
treatment of ailments is a common method of the tribal communities in global level.\textsuperscript{22,23,27–29} The paste was prepared by grinding the fresh or dried plant parts with oil or water. In some cases, the processing involves drying of the plant material followed by grinding into fine powder. The juice was taken as orally along with water or milk or honey, Raw (taken as raw plant parts orally), Decoction was obtained by boiling the plant parts in water until the volume of water reduce to required amount. Water is commonly used if a solvent is required for the preparation. Sometimes milk or honey is used as a matrix or added to increase a viscosity of the preparation.\textsuperscript{30}

Similar results were obtained in previous ethnomedical surveys carried out in Cameroon and other part of the world\textsuperscript{31–34}. Leucorrhoea is the highest number of use category recorded in our study. Similarly Bhatia et al.\textsuperscript{35} reported that gynaecological studies have shown in other parts of the India, the leucorrhoea (30.9\%) is the first use category. The biomedical aspect of the Leucorrhoea associates it with reproductive tract infections, which include local infections, as well as infections caused by sexual transmission. The various studies have reported a high prevalence of disease.\textsuperscript{36,37}

According to Morvin et\textsuperscript{38} reported Moringa oleifera in treatment of uterine disorder and female contraception followed by Smailax zeylanica (262 use reports by 120 informants with UV of 2.183) Achyranthes aspera (246 use reports by 120 informants with a UV of 2.050). Generally, these plants were frequently used for gynaecological disorders of tribal peoples in Chhattisgarh, India.\textsuperscript{38} The very low use value Physalis minima (7 use reports by 120 informants with UV of 0.058), Sesbania grandiflora (12 use reports by 120 informants with UV of 0.100) and Sida acuta (13 use reports by 120 informants with UV of 0.108). In our study Physalis minima were a new claim and also used in lactation, others are regularly using this plant in the treatment of scanty menstruation and leucorrhoea.\textsuperscript{38}

Similarly Islam et al.\textsuperscript{39} reported that plants in the study area leads to them low use value as Madhupur forest area, Bangladesh. In an ethnomedical study of Udnhampur District in Jammu Kasmir, similar to our study, informants had the highest level of agreement for most of the ailments (mean ICF = 0.94).\textsuperscript{35} This shows the persistent use of traditional medicinal plants by local people in one part of India.\textsuperscript{40} This point to the fact that although the local people have access to government health care systems, still medicinal plants have not lost their values among the people living. Also, high Fic values can be used to pinpoint interesting species in search of bioactive compounds.\textsuperscript{41}

5. Conclusion

The present study site has a rich diversity of medicinal plant knowledge among the traditional practitioners for the treatment of Gynaecological disorders. In total 66 plants were reported by 120 informants. The quantitative analysis of the data using RFC, CI, UV and ICF highlighted the most important plants used to cure various gynaecological disorders. The plants such as Moringa oleifera, Smailax zeylanica and Azadirachta indica were also need for further pharmacological analysis so that new drugs can be formulated. The high values of ICF also show a high degree of sharing of ethnogaenecological knowledge amongst the informants. By sharing, they assure the dispersal of this understanding and also increase the possibility of its documentation for the betterment of the future generations.

Conflicts of interest

The authors declare that they have no conflicts of interest concerning this article.

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Appendix A

1. Participant’s name and surname.
2. Age and gender of the participant.
3. Name of the village.
4. Educational qualifications and occupation of the participant.
5. How long do you live in the residential place?
6. Name of the used medicinal plant.
7. What are the gynecological problems treated?
8. How do you make the plants and their products with solvents for gynecological complaints?
9. Did you know how and when will you use the plant?
10. How to prepare traditional medicine?
11. Which problems, mostly occurred in this area?
12. How many people more experience in gynaecological treatment?
13. How many medicinal plants publicly known the gynecological complaints?
14. Why do you depend mostly on medicinal plants?

Appendix B

1. How many plants used your parents and grandparents to this gynecological complaints?
2. How they use them?

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