



# Herbal Recipes used by traditional healers towards Reproductive and Urinary healthcare in Wayanad (Kerala) India.

Dilipkumar EK<sup>1\*</sup>, Janardhana GR<sup>1</sup>, M Abhijith<sup>1</sup>

## \*Corresponding author:

Dilipkumar EK

<sup>1</sup>Phytopharmacology Laboratory,  
Department of Studies in Botany,  
Manasagangotri, University of Mysore,  
Karnataka, India.

## Abstract

The traditional healers in Wayanad (Kerala), India possess rich aboriginal herbal medicinal knowledge (AHMK). This investigation has brought in to light many valuable therapeutic measures which were at the verge of extinction. Validation and documentation of some of such valuable information was hence done in order to conserve at least a part of this aboriginal ethno medicinal heritage. The study consists of three consecutive phases. In the first phase a methodology for the study including work plan was elucidated. A field level testing of the method was executed at a selected study site. In the second phase an extensive data collection cum field appraisal long three calendar years commences from July 2010 to July 2013 was conducted. In the final and third phase, validation and recording of the valid responses was done. A total of 60 species distributed in 56 genera belong to 38 families were identified being used in 67 recipes meant for 15 reproductive and urinary healthcare measures in Wayanad (Kerala), India. 31 herbs, 28 trees, 22 climbers and 16 shrubs were among the medicinal constituents. The therapeutic ingredients includes Fresh whole plants (12), dried whole plant (08), fresh root (2), dry root (29), fresh tuber (01), dried tuber (17), fresh bark (01), dried bark (02), fresh leaves (04) dried leaf (01), dried stem (01), dried petiole (01), pith powder (01), dried gum (2), fresh inflorescence (01), dried inflorescence (01), fresh flower (03), dried stamen (01), dried fruits (07), dried seeds (11), and seed oil (01). Validity stands maximum when FPVS was four and minimum when FPVS was two. Among the 67 medicinal recipes 59 has highest FPVS and the remaining 08 has mediocre FPVS. Many of the aboriginal herbal medicinal cultures (AHMC) and the associated therapeutic knowledge and practices still alive in the district are at the verge of extinction. The present study hence pivots around the conservation issues of this aboriginal medicinal heritage, particularly in the cure and management of urinary and reproductive ailments. This improves and sustains the aboriginal therapeutic system to contribute better to the national health repository.

**Keywords:** Traditional medicine, Urinary and reproductive diseases, Traditional recipe, Wayanad district.

## Introduction

Every culture in the world has its own practices of treating the disease. The fund of knowledge developed over millennia by thousands of ethnic groups is largely unrecorded and faces the danger of becoming extinct. Ethno botanists can thus play a major role in the rescue of disappearing knowledge and returning it to the local communities, this will help in conserving at least a part of ethno botanical heritage as a living cultural ecosystem helping to maintain a sense of pride in local cultural knowledge and practices, and reinforcing links between communities and the environment so essential for biological conservation [1]. Traditionally, local communities worldwide are extremely knowledgeable about local

plants and other natural resources, on which they are so immediately and intimately dependent [2].

The World Health Organization (WHO) estimates that 80% of world's population relies on traditional healing modalities. Traditional knowledge system includes various medicinal plant utilities appear to vary according to local population domain and perception. Captain Johnson Saint, an English scholar on Oriental literature once remarked India a 'Veritable encyclopedia of vegetable world'. The country nurture rich and diverse ethnic diversity to encompass over 537 different aboriginal and other ethnic communities constituting approximately eight percent of the country's population. This aboriginal people has retained traditional therapeutic knowledge developed over decades by observation, trial and error, inferred and inherited largely remains unrecorded

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[3]. Herbal healers of Wayanad (Kerala), India has abundant prescriptions aims directly at urinary and reproductive healthcare. This includes simple and compound folk recipes and diets. Incongruent to modern medicine aboriginal therapeutics plays imperative role on integrated care of the human body rather removing the disease symptoms. However, there is often a decrease in the availability of wild plant resources related to increased human population and the effects of competition with other forms of land use. Modernization has encroached natural habitats removing ecological friends. This break in contact with the ecological counterparts and the original environment leads to spontaneous loss of ethno medical culture brought up by folk medical practitioner over millennia. Many of these cultures and their associated therapeutic knowledge are in peril and may even become extinct [4]. Hence present study attempted to validate and document Ethno Herbal Poly pharmacy towards Urinary and Reproductive healthcare in Wayanad, Kerala, India.

## Materials and methods

The study consists of three consecutive phases. In the first phase a methodology for the study including work plan was elucidated. A field level testing of the method was executed at a selected study site. In the second phase an extensive data collection cum field appraisal long three calendar years commences by July 2010 to July 2013 was conducted. In the final and third phase validation of data and recording of the valid responses was done.

## Study area

The study area Wayanad lies at 11° 55' N, latitude and 75 ° 59' E, longitude with altitude ranging 950-1350 meter above main sea level (Figure -1). Temperature goes down to 16 ° C during winter and to 30 ° C during summer months. Forest types includes ever green, semi ever green and grass land. Annual rainfall ranges from 300-1000mm. According to recent census total population of the district was 6, 72,128 of which there were 3, 41,958 males and 3, 30170 females. Population density was 316.2 per sq; kilometers. There were over 550 native or tribal communities within 227 ethnic groups [5].



**Figure.1** Map of Wayanad (Kerala) in India showing settlements of traditional healers.

**Data collection**

The study adhered to the research guidelines and ethical protocols of University of Mysore, Karnataka, India. For the convenience, study area was divided in to two ecological zones such as dry and wet zones. Hamlets were selected from each ecological zone. A total of 120 traditional healers and medicinal vendors (both men and woman) of different age groups between 40 and 80 were interviewed appropriately during different seasons. Queries on the subject were made only to single herbalist or medicinal vendor a day. Responses were elucidated via questionnaire developed by the University of Mysore (Figure-2). Information supplied by the informant was recorded when at least five informants independently report the use of a recipe (s). Validated therapeutic prescription (s) was recorded pivoting, herbal ingredients of the recipe, part of the

herb used, method of preparation of the recipe and the prescribed dosage. Age wise medicinal preference of the respondents was also elucidated [6]. Separate transect walks with traditional healers at different seasons were carried out. Constituent herbs of the medicinal recipes were collected, verified with the help of traditional healers, medicine vendors and the plant identification service (PIS) at the Herbarium Referral Centre (HRC), University of Mysore. Scientific names and authorships were confirmed using Flora of Presidency of Madras by Gamble. Consecutively the voucher specimens serially numbered and designated as THRI (Traditional herbal recipe ingredient) were deposited in the HRC (Table.3). A detailed information on availability of medicinal plants, people preference for a species over other and the gender difference in the collection and processing of medicinal plant was also obtained [7].

**Department of Studies in Botany  
University of Mysore, Mysore-570 006**

- 1) Name.....Age.....Gender..... Address.....
- 2) Ecological zone.....Study area.....Socio cultural group.....
- 3) Educated/Uneducated.....Occupation.....Date..... Collection no.....
- 4) Taxon:.....Family:.....
- 5) Local name(s) specify language or dialet:.....
- 6) Locality (specific):..... Height.....Diameter.....
- Bark characteristics**
- 7) Smell..... Latex.....Colour of the latex.....
- Tree part used in Medicine**
- 8) Root.....Stem:.....Twig.....Root bark.....Stem bark.....  
Flower:.....Fruit:.....Seed.....
- Method of use**
- Fresh:.....Dried:.....Boiled:.....
- 9) Other plant or tree ingradient added to it :.....
- Method (s) of preparation of the recipe:**
- Powdered:.....Extracted with cold water.....
- With hot water.....Boiled.....Extracted with local gin:.....Any other:.....
- 10) Mode of of administration:.....Dosage.....
- 11) Any other comment on information:.....

**Figure. 2** Questionnaire used to survey on Herbal Recipes used by traditional healers towards Reproductive and Urinary healthcare in Wayanad (Kerala), India.

## Validation of practices

Validation of ethno medical practices is considered as a preliminary step to establish the legitimacy of a medicinal recipe. The validation of remedies was accomplished non experimentally using four point validation score (FPVS) method used by [8]. The method consists of accurate validation of aboriginal herbal pharmacy and interpretation of the same by ways of modern scientific concepts and methodologies.

## Four point validation score (FPVS)

In this method search of chemical, pharmaceutical and pharmacological literature in order to unweave the known therapeutic and physiological effects of the crude herbal ingredient, related species or the molecule known to contain in the species. This information was used to access whether the plant use is based on empirically verifiable principles or whether symbolic aspects of healing are of enough relevance. A preparation was assigned highest degree of confidence if pharmacological and phytochemical information supports the folk use of at least single herbal constituent of the recipe. The four levels of validity were as follows.

If no ethno herbal, pharmacological or phytochemical information supports traditional use of herbal ingredients of a recipe- The herbal ingredient may be inactive.

Recipes used at geographically or temporally distinct areas attain lowest level of validity if phytochemical or pharmacological information validates the use. But use at other areas increases the validity.

In addition to ethno herbal, phytochemical or pharmacological information, if the recipes exert physiological effects on patient are more likely effective than those with lower levels of validity.

If ethno botanical, phytochemical and pharmacological information together justify folk use of a recipe, it is grouped at the highest level of validity and would most likely be an effective remedy.

## Results and discussion

### Aboriginal medicinal knowledge (AMK) and the gender

Despite men and women practice traditional healing in most healing communities AMK has gender dimensions. Among the 120 aboriginal healers interviewed each from dry and wet zones, 85 (75%) were males and 35 (25%) were females. Though males were predominant in aboriginal herbal therapy (AHT), most gynecological issues were attended by females [9]. Some of the females engaged in AHT were birth attendants experienced and proficient in aboriginal clinical gynecology has brave suggestions for gynecological healthcare including delivery at the squatting position. The profile of the study sites and the respondents are summarized in the table 1.

**Table:1** Profile of the study sites and the gender dimensions

Ecological zone	Study area	Socio cultural group	Gender groups		Total number of informants
			Males	Females	
Wet zone	Thavinzhal	Kurichya			
	Tirunelli	Kattunaika	3	1	4
	Mananthavady	Kurichya	5	3	8
	Edavaka	Kurichya	5	2	7
	Vellamunda	Paniya	4	4	8
	Panamaram	Kurichya	6	2	8
	Kaniyambetta	Kurichya	6	3	9
	Kottathara	Paniya	10	2	12
	Vengappally	Kurichya	4	4	8
	Kalpetta	Kuruma	10	1	11
	Muttill	Kurichya	2	6	8
Dry zone	Mullankolly	Paniya	4	0	4
	Sulthanbattery	Kattunaika	8	2	10
	Nenmeni	Kuruma	5	2	7
	Noolpuzha	Paniya	4	2	6
Total			85 (70)	35 (30)	120

\*Values given in parenthesis are percent population



### Age group, education and the medicinal preference

The age group and education has high relevance on medicinal preference [10]. It shows that though the medicinal preference fluctuates, as it is cheaper, recuperative and regenerative, a higher percent of each age group depended on ethno pharmacology. The affinity to ethno pharmacology fluctuates with age group and education. A higher percent of affinity (66.67) was observed among the educated age group ranging 55 -70 years and the preference augmented to 80 percent among uneducated age group of 40-45 years. Among educated highest percent of affinity (66.67) to ethno pharmacology was noticed among the age group 55-70 years, the least percent (53.33) was among age group of 40-45. Uneducated age group showed a remarkable percent of affinity to ethno pharmacology (80) among age group 40-45 years and the least percent was 55.56 against the age group 45-55. Each educated age group of 40-45 years and uneducated age group of 45-55

years suggested a maximum 33.33 percent affinity to modern pharmacy. Among educated, the least percent supported modern pharmacy was 22.2, the percent was against the age group of 55-70. Among uneducated the least percent (20) opted modern pharmacy amid the age group of 40-45 years. Some of the respondents were of the opinion that the disease suggests the therapy among the educated, 15.38 percent of the age group ranging 45-55 years supported the same. Among educated, a least percent of 11.11 only supported the concept of disease and therapy and they were of the age group 55-70 years. Among uneducated a maximum of 13.04 percent suggested the disease-therapy relation within the age group 55-70. Among uneducated only 11.11 percent supported disease-therapy relation and were of the age group of 45-55 years. The educated category between ages 70-80 years had no preferences, but uneducated category of all age group articulated their preferences. Table 2 shows age wise medicinal preference of the respondents.

**Table 2.** Age, education and the medicinal preference.

Age group (Years)	Medicinal preference							
	Educated				Uneducated			
	Ethno pharmacy	Modern pharmacy	Depends on disease	Total	Ethno pharmacy	Modern pharmacy	Depends on disease	Total
40-45	08 (53.33)	05 (33.33)	02 (13.33)	15	08 (80)	02 (20)	00	10
45-55	07 (53.85)	04 (30.77)	02 (15.38)	13	10 (55.56)	06 (33.33)	02 (11.11)	18
55-70	06 (66.67)	02 (22.22)	01 (11.11)	09	14 (60.87)	06 (26.09)	03 (13.04)	23
70-80	00	00	00	00	10 (62.5)	04 (25)	02 (12.5)	16
80 above	00	00	00	00	09 (56.25)	05 (31.25)	02 (12.5)	16
Total	21 (56.76)	11 (29.73)	05 (13.51)	37	51 (61.45)	23 (27.71)	09 (10.84)	83

### Aboriginal medicinal knowledge (AMK) and the rituals

An aboriginal healer (AH) is the person authorized to diagnose the disease and to prescribe therapy [11]. To become a healer, pro aboriginal healer has to work years together under the guidance and supervision of a healer. During the training period a pro aboriginal healer learn to diagnose disease and recommend cure, learn sustained harvest of herbal medicinal parts, preparation of recipe and the dosage. Among the many attendants, healer appoints his descendant, pro aboriginal healer on the basis of proficiency or heir ship. The trained pro healer operates as first attendant till death of the healer. A pro aboriginal healer authorized to become healer when his teacher dies, his contemporaries operate as attendants in collecting and processing of herbs in to medicinal recipe. A male healer used to be in charge of the family temple and he is authorized to diagnose the disease and to recommend remedies (Figure.7). Correct dose of medicinal recipes were dispensed on showering magical words on it. It is believed

that during these prayers healer communicate with the souls of the passed away healer ancestors [12].

### Aboriginal medicinal knowledge (AMK) and the diseases

The aboriginal healing system in Wayanad, Kerala, India has demonstrated a rich practice so bright future in the therapy of many diseases [13]. 120 respondents reported the use of 68 herbal recipes against the management and cure of 15 urinary and reproductive remedies. The list of disease includes, less sperm count, premature ejaculation, urine block, kidney stone, white discharge (male), inflammation to penis and testes, white discharge (Female), Correction of menstrual cycle, birth control, to occur pregnancy, headache during pregnancy, constipation during pregnancy, easy delivery, inflammation on breast and to increase the mother milk. Figure. 3 represents the diseases and the percent of herbal recipes used.

**Table: 3** Herbal Recipes used by traditional healers towards Reproductive and Urinary healthcare in Wayanad (Kerala), India.

SL.No.	Name of the disease	Medicinal recipe with herbal ingredient (s) (local name, family, habit, part used), method of preparation of the medicine and dosage.	Voucher specimen No (s).	Four point validation score (FPVS)
1	To increase the sperm count	1) <i>Mimosa pudica</i> L. (Thottarvadi, Mimosaceae, Climber, Fresh whole plant), <i>Cynodon dactylon</i> (L.) Pers. (Karuka, Poaceae, Herb, Fresh whole plant), <i>Solanum indicum</i> L. (Cheruvazhuthina, Solanaceae, Shrub, Fresh root). 20 g. each <i>Mimosa</i> , <i>Cynodon</i> and <i>Solanum</i> were ground in 10 ml of water, squeezed out 10 ml of juice. 10 ml of the Juice was advised twice a day at morning in empty stomach and night 30 minute before supper.	THRI-1, 2, 3.	4
		2) <i>Withania somnifera</i> Dunal. (Amukkuram, Solanaceae, Shrub, Dried root), <i>Holostemma adakodien</i> Schult. (Adapathiyam, Asclepiadaceae, Climber, Dried tuber). 10 g. each <i>Withania</i> and <i>Holostemma</i> were pound and mixed with 5 ml of small bee honey. 5 g. of the preparation was advised twice a day at morning in empty stomach and night 30 minute before supper.		4
		3) <i>Curculigo orchoides</i> Gaertn. (Nilappana, Amaryllidaceae, Herb, Dried tuber), <i>Mucuna pruriens</i> (Linn.) (Naikurana, Fabaceae, Climber, Dried seeds), <i>Prunus amygdalus</i> Batsch. (Badam, Rosaceae, Tree, Dried seeds). 10 g. each <i>Curculigo</i> , <i>Mucuna</i> and <i>Prunus</i> were pound in a stone mortar and 5 g. of the pound mixture was boiled in 100 ml of cow milk for 5 minute. 50 ml of the medicinal preparation was advised twice a day at morning in empty stomach and night 30 minute before supper.	THRI-4, 5.	
		4) <i>Glycyrrhiza glabra</i> L. (Irattimadhuram, Fabaceae, Shrubs, Dried root), <i>Asparagus racemosus</i> Willd. (Sathaveri, Liliaceae, Climber, Dried tubers), <i>Mucuna pruriens</i> (Linn.) DC (Naikurana, Fabaceae, Climber, Dried seeds). 5g. each <i>Glycyrrhiza</i> , <i>Asparagus</i> and <i>Mucuna</i> was pound in a stone mortar and 5 g. of the pound mixture was boiled in 100 ml of cow milk for 5 minute. 50 ml of the medicinal preparation was advised twice a day at morning in empty stomach and night before sleep.	THRI-6, 7, 8.	4
		5) <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried root), <i>Ipomoea mauritiana</i> Jacq. (Palmuthakku, Convolvulaceae, Climber, Dried tuber), <i>Mucuna pruriens</i> Linn. (Naikurana, Fabaceae, Climber, Dried seeds), <i>Withania somnifera</i> Dunal. (Amukkuram, Solanaceae, Shrub, Dried root), Thriphala (Combination of <i>Emblica officinalis</i> Gaertn. (Nelly, Euphorbiaceae, Tree, Dried pound fruit), <i>Terminalia chebula</i> Retz. (Kadukka, Combretaceae, Tree, Dried pound fruit) and <i>Terminalia bellerica</i> Roxb. (Thanni, Combretaceae, Tree, Dried pound seeds). 5 g. each <i>Tribulus</i> , <i>Ipomoea</i> , <i>Mucuna</i> , <i>Withania</i> and Thriphala were pound in a stone made mortar and to the mixture 5 ml. each stone bee honey and ghee was added. 10 g. of the medicinal preparation was advised twice a day at morning in empty stomach and night before sleep.	THRI-9, 10, 11.	4
		6) <i>Tribulus terrestris</i> L. (Njerinjil, Zygophyllaceae, Herb, dried fruit), <i>Tinospora cordifolia</i> (Willd.) Miers (Chittamruthu, Menispermaceae, Herb, Dried whole plant.), <i>Emblica officinalis</i> Gaertn. (Nellikka, Euphorbiaceae, Tree, dried whole fruit). 5g. each dried powdered <i>Tribulus</i> , <i>Tinospora</i> and <i>Emblica</i> was added to a mixture contain 5 ml. each honey and ghee. The preparation was advised twice a day early morning before food and night after food.	THRI-12, 13, 11, 4, 14, 15, 16.	4
			THRI-12, 17, 14.	4
2	Premature ejaculation	1) <i>Ipomoea mauritiana</i> Jacq. (Palmuthakku, Convolvulaceae, Climber, Dried tuber), <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried root), <i>Tinospora cordifolia</i> (Willd.) Miers., (Chittamruthu, Menispermaceae, Herb, Dried whole plant.) <i>Emblica officinalis</i> Gaertn. (Nelly, Euphorbiaceae, Tree, Dried fruit). 10 g each <i>Ipomoea</i> , <i>Tribulus</i> , <i>Tinospora</i> and <i>Emblica</i> were	THRI-13, 12, 17, 14.	4

		<p>pound together and 5 ml of stone bee honey was added to the mixture. 10 g. of the medicinal preparation was advised twice a day at morning in empty stomach and night before sleep.</p> <p>2) <i>Maranta arundinaceae</i> L. (Koova, Marantaceae, Herb, Pith powder obtained from corm), <i>Prunus amygdalus</i> Batsch. (Badam, Rosaceae, Tree, Dried seeds). 10 g. each <i>Maranta</i> and <i>Prunus</i> were pound and was boiled in 100 ml. of cow milk for 5 minute. 50 ml. of the preparation was advised twice a day at morning in empty stomach and night before sleep.</p> <p>3) <i>Ipomoea mauritiana</i> Jacq. (Palmuthakku, Convolvulaceae, Climber, dried tuber). 5 g. of dried powdered <i>Ipomoea</i> was added to 10 ml of honey and the preparation was advised twice a day early morning before food and night after food.</p> <p>4) <i>Myristica fragrans</i> Houtt (Jathikka, Myristicaceae, Tree, Dried pericarp). 10 g. of pound <i>Myristica</i> was added to 5 ml. of boiled cooled coconut oil and mixed. The preparation was topically applied on penis twice a day during morning on wake up and night before sleep.</p> <p>5) <i>Terminalia bellerica</i> Roxb (Thanni, Combretaceae, Tree, Dried pound seeds). 10 g. of dried pound seeds were mixed with 5 ml. of fresh ghee. The preparation was orally advised twice a day during morning on wake up and night before sleep.</p> <p>6) <i>Mimosa pudica</i> L. (Thottalvadi, Mimosaceae, Climber, Fresh whole plant). 50 g. of fresh ground <i>Mimosa</i> were extracted in 20 ml. of water and the extract was added to 50 ml. of coconut oil and boiled for 20 min. The preparation was topically advised on penis twice a day during morning on wake up and night before sleep.</p>	<p>THRI-18, 8.</p> <p>THRI-13.</p> <p>THRI-19.</p> <p>THRI-16</p> <p>THRI-1.</p>	<p>3</p> <p>4</p> <p>4</p> <p>4</p> <p>4</p>
3	Urine block	<p>1) <i>Asparagus racemosus</i> Willd. (Sathaveri, Liliaceae, Climber, Dried tubers), <i>Boerhaavia diffusa</i> L. (Thazhuthama, Nyctaginaceae, Shrub, Dried root), <i>Nymphaea stellata</i> willd. (Ambal, Nymphaeaceae, Herb, Dried tuber). 10 g each dried pound <i>Asparagus</i>, <i>Boerhaavia</i> and <i>Nymphaea</i> were boiled in 100 ml. of cow milk for 5 min., filtered and to the filtrate was added 3 ml. of stone bee honey. This preparation was advised twice a day at morning in empty stomach and night before sleep.</p> <p>2) <i>Asparagus racemosus</i> Willd. (Sathaveri, Liliaceae, Climber, Fresh tubers). 10 ml. of juice was extracted from 100 g. of fresh <i>Asparagus</i> tubers. 10 ml of Juice was added to 40 ml. of boiled cow milk. This preparation was advised twice a day at morning in empty stomach and night before sleep.</p> <p>3) <i>Vitex negundo</i> L. (Karinochi, Verbenaceae, Tree, Dried root), <i>Emblica officinalis</i> Gaertn. (Nelli, Euphorbiaceae, Tree, Dried pericarp). 10 g. each <i>Vitex</i> and <i>Emblica</i> were pound and was added to 100 ml. of fresh butter milk. 50 ml. of the preparation was advised twice a day during morning in empty stomach and night before sleep.</p> <p>4) <i>Emblica officinalis</i> Gaertn. (Nelli, Euphorbiaceae, Tree, Dried pericarp), <i>Boerhaavia diffusa</i> L. (Thazhuthama, Nyctaginaceae, Shrub, Dried root). 10 g. each <i>Emblica</i> and <i>Boerhaavia</i> were pound in a stone mortar and 20 g. of Jaggary scrapes were added and mixed. 10 g of the preparation was advised twice a day during morning in empty stomach and night before sleep.</p> <p>5) <i>Boerhaavia diffusa</i> L. (Thazhuthama, Nyctaginaceae, Shrub, Fresh whole plant), <i>Cynodon dactylon</i> (L.) Pers. (Karuka, Poaceae, Herb, Fresh whole plant), <i>Amaranthus viridis</i> L. (Cherucheera, Amaranthaceae, Herb, Fresh whole plant). 20 g. each fresh whole plant of <i>Boerhaavia</i>, fresh whole plant of <i>Cynodon</i> and fresh whole plant of <i>Amaranthus</i> was boiled in 100 ml of water and the volume was reduced to 50 ml. The filtered extract was advised twice a day early morning before food and night after food.</p>	<p>THRI-10, 20, 21.</p> <p>THRI-10.</p> <p>THRI-22, 14.</p> <p>THRI-14, 20.</p>	<p>4</p> <p>4</p> <p>4</p> <p>4</p>



		6) <i>Hemidesmus indicus</i> R. Br. (Naruneendi, Asclepiadaceae, Herb, Fesh tuber), 20 g of <i>Hemidesmus</i> was pound with 10 ml. of water and the paste was applied all over the navel. The medication was advised continuously for 5 days.	THRI-20, 2, 23.	4
			THRI-24	4
4	Kidney stone	1) <i>Aegle marmelos</i> Corr. (Koovalam, Rutaceae, Tree, Dried root), <i>Aerva lanata</i> (L) Juss. (Cherula, Amaranthaceae, Herb, Dried whole plant), <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried root). 10 g. each <i>Aegle</i> , <i>Aerva</i> and <i>Tribulus</i> were pound and the mixture was boiled in 500 ml. of water for 10 minute. 500 ml. of the filtrate was advised 4-5 times a day and continued.	THRI-25, 26, 12.	4
		2) <i>Rotula aquatica</i> Lour. (Kalloorvanchi, Boraginaceae, Shrub, Dried root), <i>Scoparia dulcis</i> L. (Kallurukky, Scrophulariaceae, Herb, Dried whole plant), <i>Imperata cylindrica</i> Beauv. (Dharba, Poaceae, Shrub, Dried root). 10 g. each <i>Rotula</i> , <i>Scoparia</i> and <i>Imperata</i> were pound and the mixture was boiled in 500 ml. of water for 10 minute. 500 ml. of the filtrate was advised 4-5 times a day and continued.	THRI-27, 28, 29.	4
		3) <i>Saraca asoca</i> (Roxb. De Wilde. (Asokam, Fabaceae, Tree, Dried bark), <i>Nervilia plicata</i> (Andrews) Schltr. (Nilathamara, Orchidaceae, Herb, Dried corm), <i>Cynodon dactylon</i> (L.) Pers. (Karuka, Poaceae, Herb, Fresh whole plant). 10 g. each <i>Saraca</i> , <i>Nervilia</i> and <i>Cynodon</i> were in 500 ml. of water for 10 minute. 500 ml. of the filtrate was advised 4-5 times a day and continued for 5 days.	THRI-30, 31, 2.	4
		4) <i>Moringa oleifera</i> Lam. (Muringa, Tree, Moringaceae, Fresh bark). 50 g. of <i>Moringa</i> was extracted in 20 ml. of water. 15 ml. of extract was advised thrice a day after the food.	THRI-32.	3
5	White discharge (Male)	1) <i>Hibiscus rosa-sinensis</i> Linn. (Chembarathy, Malvaceae, Shrub, Fresh flower), <i>Asparagus racemosus</i> Willd. (Sathaveri, Liliaceae, Climber, Dried tubers), <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried root). 10 g. each <i>Hibiscus</i> , <i>Asparagus</i> and <i>Tribulus</i> were pound and boiled in 100 ml. of water for 10 minute. 50 ml. of the filtrate was advised twice a day and continued.	THRI-33, 10, 12.	4
		2) <i>Asparagus racemosus</i> Willd. (Sathaveri, Liliaceae, Climber, Fresh tubers). 10 ml. of juice was extracted from 100 g. of fresh <i>Asparagus</i> tubers. 10 ml of Juice was added to 40 ml. of coconut milk. This preparation was advised twice a day at morning in empty stomach and night before sleep.	THRI-10.	4
6	Inflammation to penis & testes.	1) <i>Boswellia serrata</i> Roxb.ex Colebr. (Arabikunthirikkam, Burseraceae, Tree, Dried gum), <i>Balsamodendron myrrha</i> Nees. (Myrrha, Burseraceae, Tree, Dried gum). 10 g. each <i>Boswellia</i> and <i>Balsamodendron</i> were ground in 5 ml. of goat milk and the paste was applied on the inflammation.	THRI-34, 35.	4
		2) <i>Datura stramonium</i> L. (Neelaummam, Solanaceae, Shrub, Dried leaf), <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried whole plant). 10 g. each pound <i>Datura</i> and <i>Tribulus</i> were sauté in 10 ml of Sesamum oil for 5 min. Warm paste was applied on the inflammation.	THRI-36, 12.	4
		3) <i>Cardiospermum halicacabum</i> L. (Vally uzhinja, Sapindaceae, Climber, Fresh leaves). 50 g. of <i>Cardiospermum</i> was ground in 10 ml. of fresh water and the paste was applied on the	THRI-37.	4





		inflammation.	THRI-38.	3
		4) <i>Pongamia pinnata</i> (L.) Pierre. (Ungu, Fabaceae, Tree, Dried root). 50 g. of <i>Pongamia</i> was pound and mixed with 50 ml of local jin and the paste was applied on the inflammation.		
7	White discharge in female	1) <i>Mucuna pruriens</i> (Linn.) DC (Naikurana, Fabaceae, Climber, Dried seeds), <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried whole plant). 10 g. each <i>Mucuna</i> and <i>Tribulus</i> were pound and boiled in 100 ml. of cow milk for 5 minute. 50 ml. of the preparation was advised twice a day during morning in empty stomach and night before supper and continued.	THRI-11,12.	4
		2) <i>Dendrophthoe falcata</i> (Lf) Ettingsh. (Ittilkanni, Loranthaceae, Shrub, Dried stem base) grows on <i>Strychnos nux vomica</i> L. (Kanhiram, Loganiaceae, Tree, Dried root). 05 g. of the pound <i>Dendrophthoe</i> was added to 50 ml. of boiled cow milk and the preparation was advised twice a day during morning in empty stomach and night before sleep.	THRI-39, 40.	4
		3) <i>Hemidesmus indicus</i> R. Br. (Naruneendi, Asclepiadaceae, Herb, Dried tuber), <i>Asparagus racemosus</i> Willd. (Sathaveri, Liliaceae, Climber, Dried tuber). 10 g. each <i>Hemidesmus</i> and <i>Asparagus</i> were pound and boiled in 100 ml. of cow milk for 5 minute. 50 ml. of the preparation was advised twice a day during morning in empty stomach and night before supper and continued.	THRI-24, 10.	4
		4) <i>Sesbania bispinosa</i> (Jacq.) W. Wight (Agathi, Fabaceae, Tree, Fresh flowers). 5 ml. of <i>Sesbania</i> flower juice was added to 50 ml of boiled milk and the preparation was advised twice a day early morning before food and night after food.	THRI-41.	4
		5) <i>Asparagus racemosus</i> Willd. (Sathavari, Liliaceae, Climber, Dried tuber), <i>Nymphaea stellata</i> willd. (Ambal, Nymphaeaceae, Herb, Dried stem). 10 g. each dried powdered <i>Asparagus</i> and <i>Nymphaea</i> was added to 50 ml of boiled milk and the preparation was advised for 15 days twice a day early morning before food and night after food.	THRI-10, 21.	4
		6) <i>Cocos nucifera</i> Linn. (Thenga, Arecaceae, Tree, Fresh inflorescence). 200 g. of fresh inflorescence was crushed and squeezed to obtain 20 ml of juice. 5 ml. of small bee honey was added to the juice. 10 ml of the preparation was advised for 15 days twice a day early morning before food.	THRI-42.	4
8	To correct menstrual cycle	1) <i>Vitex negundo</i> Linn. (Karinochi, Verbenaceae, Tree, Dried root). 20 g. of dried powdered roots of <i>Vitex</i> was mixed in 50 ml. of boiled milk and was advised twice early morning before food and continued.	THRI-22.	4
		2) <i>Saraca asoca</i> (Roxb.) de Wilde (Asokam, Caesalpiniaceae, Tree, Fresh flowers). 5 ml. of <i>Saraca</i> flower extract was added to 5 g. of honey and was advised early morning before food and continued.	THRI-30.	3
		3) <i>Tinospora cordifolia</i> (Willd) Miers (Chittamruthu, Menispermaceae, Climber, Dried whole plant). 10 g. of <i>Tinospora</i> was boiled in 100 ml. of cow milk and the volume was reduced to 50 ml, finally 10 drops of honey was added to the preparation. The medicine was advised twice a day early morning before food and night after food.	THRI-17.	4
		4) <i>Bacopa monnieri</i> (L.) Pennell (Brahmi, Scrophulariaceae, Herb, Fresh whole plant). 5 ml. of freshly prepared <i>Bacopa</i> whole plant juice was added to 50 ml. of boiled cow milk and was advised twice a day early morning before food and night after food.	THRI-43.	4
		5) <i>Lawsonia inermis</i> L. (Mylanchi, Lythraceae, Shrub, dried bark). 5 g of dried bark of <i>Lawsonia</i>		



		was boiled in 100 ml. of water and the volume was reduced to 50 ml. The preparation was advised early morning in empty stomach for 15 days.	THRI-44.	4
9	Birth control	<p>1) <i>Mimosa pudica</i> L. (Thottalvadi, Mimosaceae, Climber, Dried root), <i>Hibiscus rosa-sinensis</i> L. (Chembarathi, Malvaceae, Shrub, Dried stamens). 5g each dried powdered roots of <i>Mimosa</i> and dried powdered stamens of <i>Hibiscus</i> was boiled in 100 ml of milk and the volume was reduced to 50 ml. 10 ml. of preparation was advised for first five days of menstruation.</p> <p>2) <i>Tephrosia purpurea</i> (Linn) Pers. (Kozhinjil, Fabaceae, Climber, Dried roots), <i>Ricinus communis</i> L. (Aavanakku, Euphorbiaceae, Shrub, Dried petiole), <i>Datura metel</i> (Linn.) (Neelumam, Solanaceae, Shrub, Dried roots). 5 g. each dried powdered roots of <i>Tephrosia</i>, dried powdered petiole of <i>Ricinus</i> and dried powdered roots of <i>Datura</i> was mixed in 3 ml. of water. 3 g. of this mixture was applied on the inner wall of the vagina for 30 minutes. Repeat the same for subsequent 3 days of menstruation.</p> <p>3) <i>Heliotropicum indicum</i> Linn. (Venalpacha, Boraginaceae, Herb, Dried inflorescence), <i>Amaranthus spinosus</i> Linn. (Mullancheera, Amaranthaceae, Herb, Dried roots). 5 g. each dried powdered inflorescence of <i>Heliotropicum</i> and dried powdered roots of <i>Amaranthus</i> are mixed in 3 ml of water and the paste was applied on the inner wall of the vagina for 30 minutes. Repeat the same for subsequent 5 days of menstruation.</p> <p>4) <i>Carica papaya</i> Linn. (Papaya, Caricaceae, Tree, Dried seeds). 3 g. of dried powdered seeds are mixed in 100 ml of milk and the preparation was advised twice a day early morning before food and night after food.</p> <p>5) <i>Calotropis gigantea</i> (R.) R.Br. (Erukku, Asclepiadaceae, Shrub, Dried inflorescence or root). 10 g. of dried inflorescence or root of <i>Calotropis</i> was covered in a wet thin cotton cloth and inserted in to the vagina. The medicine was allowed in the vagina for 30 minute. Repeat the same for subsequent 5 days of menstruation.</p>	THRI-1, 33.  THRI-45, 46, 47.  THRI-48, 49.  THRI-50.  THRI-51.	4  4  4  4
10	To occur pregnancy	<p>1) <i>Ipomoea sapiaria</i> Koen. Ex Roxb. (Thiruthali, Convolvulaceae, Climber, Dried roots), <i>Evolvulus alsinoides</i> L. (Vishnukranthi, Convolvulaceae, Herb, Dried whole plant). 5 g. each dried powdered roots of <i>Ipomoea</i> and dried powdered whole plant of <i>Evolvulus</i> are boiled in 50 ml of cow milk and the same was advised for 30 days twice a day early morning before food and night after food.</p> <p>2) <i>Bacopa monnieri</i> (L.) Pennell. (Brahmi, Scrophulariaceae, Herb, Fresh whole plant), <i>Terminalia chebula</i> Retz. (Kadukka, Combretaceae, Tree, Dried fruit wall). 30 g. of <i>Bacopa</i> was extracted in 15 ml of water and the extract was added to 20 g. of pound <i>Terminalia</i>. The mixture was advised for 30 days twice a day early morning before food and night after food.</p> <p>3) <i>Withania somnifera</i> Dunal. (Amukkuram, Solanaceae, Shrub, Dried root), <i>Asparagus racemosus</i> Willd. (Sathavari, Liliaceae, Climber, Dried tuber), <i>Cynodon dactylon</i> (L.) Pers. (Karuka, Poaceae, Herb, Fresh whole plant). 10 g. each <i>Withania</i>, <i>Asparagus</i> and <i>Cynodon</i> were boiled in 100 ml of cow milk, filtered and to the filtrate was added 3 ml. of stone bee honey. This preparation was advised twice a day at morning in empty stomach and night before sleep.</p>	THRI-52, 53.  THRI-43, 15.  THRI-4, 10, 2.	4  4  4
11	Head ache during pregnancy	1) <i>Cardiospermum halicacabum</i> L. (Vally uzhinja, Climber, Sapindaceae, Fresh leaves), <i>Mimosa pudica</i> L. (Thottarvadi, Mimosaceae, Climber, Fresh whole plant). 20 g. each <i>Cardiospermum</i> and <i>Mimosa</i> were thoroughly ground. The paste was spread on the fore	THRI-	4

		<p>head.</p> <p>2) <i>Biophytum sensitivum</i> (L.) DC. (Mukkutty, Oxalidaceae, Herb, Fresh whole plant). 20 g. of <i>Biophytum</i> was thoroughly ground and the paste was spread on the forehead.</p> <p>3) <i>Glycosmis pentaphylla</i> Correa. (Panal, Rutaceae, Shrub, Fresh root bark). 20 g. of <i>Glycosmis</i> was thoroughly ground and the paste was spread on the forehead.</p> <p>4) <i>Mimosa pudica</i> L. (Thottarvadi, Mimosaceae, Climber, Fresh whole plant). 20 g. of <i>Mimosa</i> was thoroughly ground and the paste was spread on the forehead.</p>	<p>37, 1.</p> <p>THRI-54.</p> <p>THRI-55.</p> <p>THRI-1.</p>	<p>4</p> <p>3</p> <p>4</p>
12	Constipation during pregnancy	<p>1) <i>Moringa oleifera</i> Lam. (Muringa, Tree, Moringaceae, Fresh medium grown leaves). 40 g. of <i>Moringa</i> was ground in 20 ml. of water to extract out 15 ml. of juice. The extract was allowed to settle for 30 minute and of the two layers 10 ml. of supernatant was added to 50 ml. of boiled cow milk. The preparation was advised twice a day at morning in empty stomach and night before sleep.</p> <p>2) <i>Ricinus communis</i> L. (Aavanakku, Euphorbiaceae, Shrub, Seed oil). 5 ml. of <i>Ricinus</i> was added to 50 ml. of boiled cow milk and the preparation was advised twice a day at morning in empty stomach and night 30 minute before sleep.</p> <p>3) <i>Glycyrrhiza glabra</i> L. (Irattimadhuram, Fabaceae, Shrub, Dried root), <i>Prunus amygdalus</i> Batsch. (Badam, Rosaceae, Tree, Dried seeds). 10 g. each <i>Glycyrrhiza</i> and <i>Prunus</i> were pound and boiled in 100 ml. cow milk for 10 minute. The preparation was advised twice a day at morning in empty stomach and night after sleep.</p> <p>4) <i>Cyperus esculentus</i> L. (Muthanga, Cyperaceae, Herb, Dried tuber). 10 g. of <i>Cyperus</i> was mixed with 10 ml. of stone bee honey. The preparation was advised twice a day at morning in empty stomach and night 30 minute before sleep.</p>	<p>THRI-32.</p> <p>THRI-46.</p> <p>THRI-9,8.</p> <p>THRI-56.</p>	<p>3</p> <p>4</p> <p>4</p> <p>4</p>
13	Easy delivery	<p>1) <i>Abrus precatorius</i> L. (Kunni, Fabaceae, Climber, Dried seeds), <i>Achyranthes aspera</i> L. (Kadaladi, Amaranthaceae, Herb, Dried root). 10 g. each <i>Abrus</i> and <i>Achyranthes</i> were ground in 10 ml of boiled cow milk. The paste was advised to apply over the lower abdomen and vagina.</p> <p>2) <i>Aristolochia bracteata</i> Retz. (Aaduthodapala, Aristolochiaceae, Climber, Dried root). 20 g. of <i>Aristolochia</i> were ground in 100 ml. of coconut water. The preparation was advised thrice at 10 minute interval.</p> <p>3) <i>Cissampelos pereira</i> L. (Malathangi, Menispermaceae, Climber, Dried root). 20 g. of <i>Cissampelos</i> were ground in 40 ml. of coconut water. The paste was advised to apply over the lower abdomen and vagina.</p>	<p>THRI-57,58.</p> <p>THRI-59.</p> <p>THRI-60.</p>	<p>4</p> <p>4</p> <p>3</p>
14	Inflammation on breast	<p>1) Triphala (Combination of <i>Embllica officinalis</i> Gaertn. (Nelly, Euphorbiaceae, Tree, Dried pound fruit), <i>Terminalia chebula</i> Retz. (Kadukka, Combretaceae, Tree, Dried pound fruit) and <i>Terminalia bellerica</i> Roxb. (Thanni, Combretaceae, Tree, Dried pound seeds). 20 g. of Triphala was added in 10 ml of coconut water and the paste was applied on the inflammation.</p> <p>2) <i>Vetiveria zizanioides</i> (L.) Nash. (Ramacham, Poaceae, Herb, Dried root), <i>Santalum album</i> L. (Channdanam, Santalaceae, Tree, Dried root). 20 g. each dried pound <i>Vetiveria</i></p>	<p>THRI-14, 15, 16.</p>	<p>4</p>



		and <i>Santalum</i> were added to 05 ml. of boiled cow milk. The medicinal paste was applied twice a day on breast inflammation.	THRI-60, 61.	4
		3) <i>Aegle marmelos</i> (L.) Correa. (Koovalam, Rutaceae, Tree, Dried root), <i>Tribulus terrestris</i> L. (Njerijil, Zygophyllaceae, Herb, Dried root). 10 g. each <i>Aegle</i> and <i>Tribulus</i> were pound mixed in 10 ml of local jinn. The medicinal paste was applied twice a day on breast inflammation.	THRI-25, 12.	4
		4) <i>Sesamum indicum</i> L. (Ellu, Pedaliaceae, Herb, Dried seed). 10 g. of <i>Sesamum</i> were ground in 20 ml. of boiled cow milk. The medicinal paste was applied twice a day on breast inflammation.	THRI-62.	4
15	To increase mother milk	1) <i>Cynodon dactylon</i> (L.) Pers. (Karuka, Poaceae, Herb, Fresh whole plant), <i>Glycyrrhiza glabra</i> L. (Irattimadhuram, Fabaceae, Shrub, Dried root). 10 g. each <i>Cynodon</i> and <i>Glycyrrhiza</i> were ground, boiled for 10 minute in 100 ml. of cow milk and filtered. The medicinal preparation was advised twice a day during morning in empty stomach and night 30 minute before sleep.	THRI-2, 9.	4
		2) <i>Asparagus racemosus</i> Willd (Sathaveri, Liliaceae, Climber, Dried tubers), <i>Holostemma adakodien</i> Schult. (Adapathiyam, Asclepiadaceae, Climber, Dried tuber). 10 g. each <i>Asparagus</i> and <i>Holostemma</i> were pound, boiled for 10 minute in 100 ml. of cow milk and filtered. The medicinal preparation was advised twice a day during morning in empty stomach and night 30 minute before sleep.	THRI-10, 5.	4
		3) <i>Ipomoea mauritiana</i> Jacq. (Palmuthakku, Convolvulaceae, Climber, Dried tuber), <i>Cyperus esculentus</i> L. (Vayal Muthanga, Cyperaceae, Herb, Dried tuber). 10 g. each <i>Ipomoea</i> and <i>Cyperus</i> were ground, boiled for 10 minute in 100 ml. of cow milk and filtered. The medicinal preparation was advised twice a day during morning in empty stomach and night 30 minute before sleep.		4
		4) <i>Vetiveria zizanioides</i> (L.) Nash (Ramacham, Poaceae, Herb, Dried root), <i>Prunus amygdalus</i> Batsch. (Badam, Rosaceae, Tree, Dried seeds). 10 g. each <i>Vetiveria</i> and <i>Prunus</i> were pound, boiled 10 minute in 100 ml. of cow milk and filtered. The medicinal preparation was advised twice a day during morning in empty stomach and night 30 minute before sleep.	THRI-13, 56.	
		5) <i>Holostemma adakodien</i> Schult. (Adapathiyam, Asclepiadaceae, Climber, Dried tuber). 10 g. of <i>Holostemma</i> were pound, boiled for 10 minute in 100 ml. of cow milk and 10 ml of ghee was added. The medicinal preparation was advised twice a day during morning in empty stomach and night 30 minute before sleep.	THRI-60, 8. THRI-5.	4 3

### Validation of aboriginal medical practices (AMP)

Validation and documentation of aboriginal herbal therapeutics (AHT) exercised for urinary and reproductive healthcare were done only when at least 5 respondents independently report the use of a preparation with specific herbal ingredients [14]. Validity stands maximum when FPVS is four and minimum when FPVS is two. Among the 67 medicinal recipes 59 has highest FPVS and the remaining 08 has mediocre FPVS. FPVS of the recipes are figured in table 1.

### Documented aboriginal medicinal knowledge (AMK)

Aboriginal herbal therapy make use diverse herbs in the preparation of medicinal recipe, the practice of polypharmacy using more than one herbal extract in a recipe (Compound herbal recipe) is most common [15]. It is believed that 'elements' from different herb forms recuperative substance. A total of 60 species distributed in 56 genera belong to 38 families were identified being used in 67 different recipes meant for reproductive and urinary healthcare in Wayanad (Kerala), India. Figure. 4-6 represents habit and the percent use of medicinal species, percent use of medicinal herb ingredients in different recipes and the families with the number of medicinal species used. Table 3 summarizes the ailments and the AHT being in practice at Wayanad (Kerala), India.



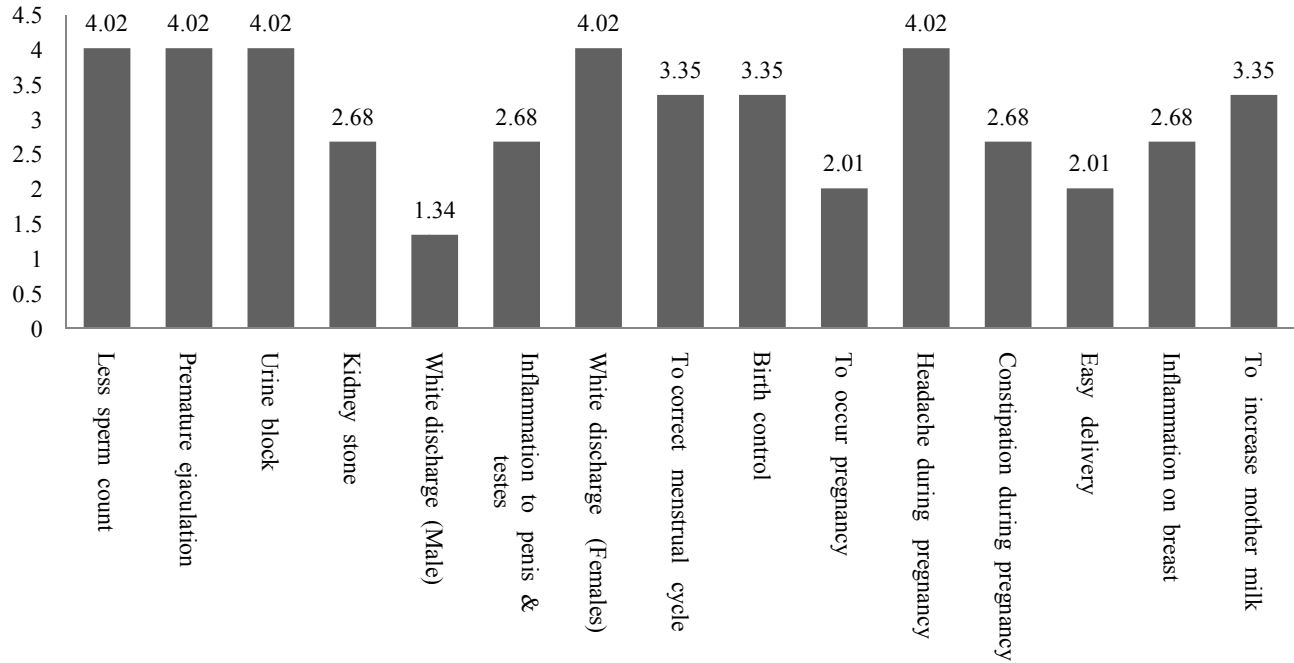


Figure.3. Urinary and reproductive diseases and the percent of recipes used against.

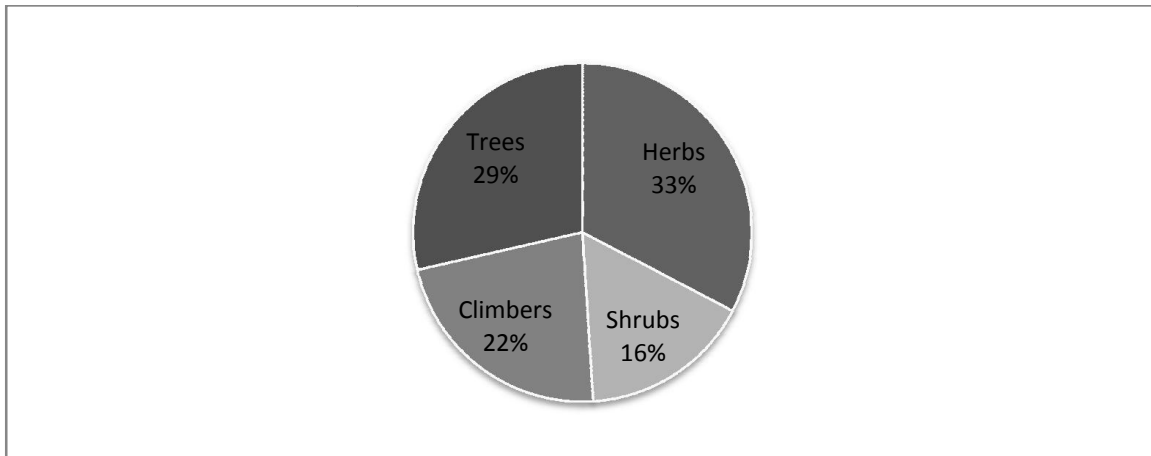


Figure.4 Habit and the percent use of medicinal species in different recipes.



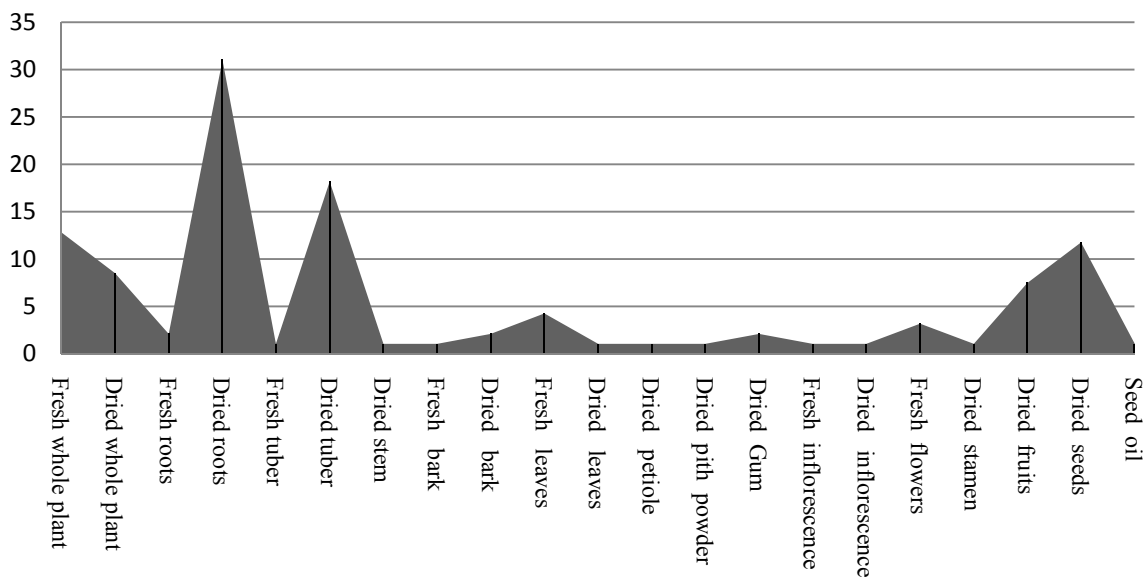


Figure.5 Percent use of medicinal herb ingredients in different recipes.

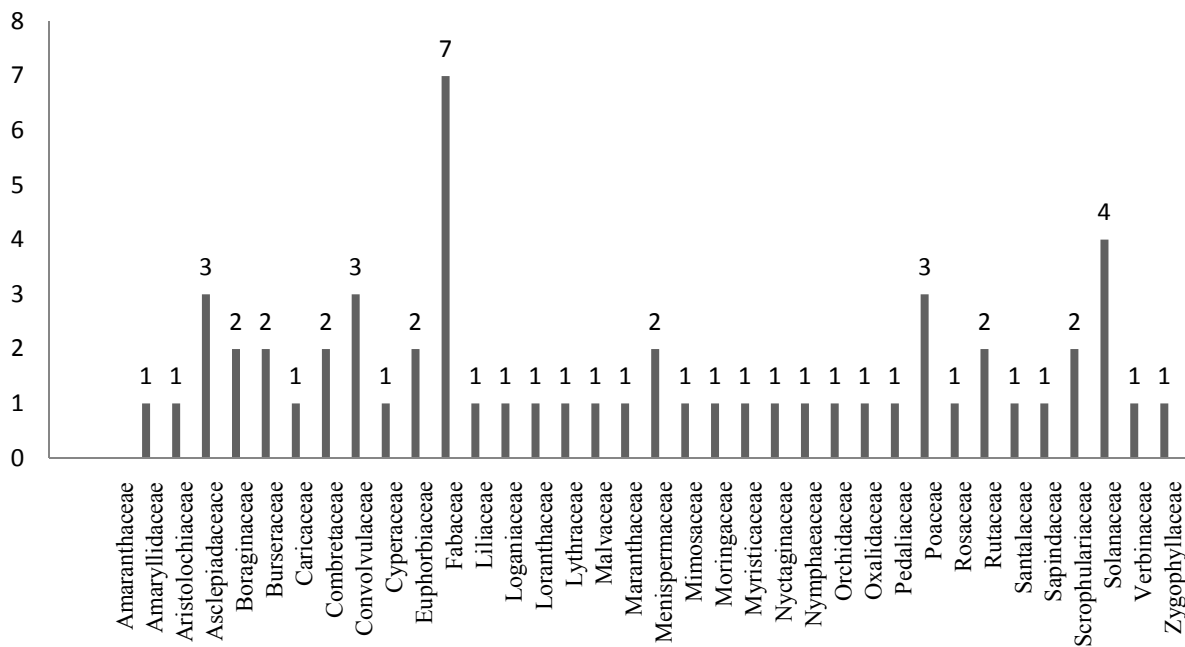


Figure. 6 Families and number of medicinal species used.





**Figure-7.** A-f, a- a traditional medicine shop, b- medical man at work, c- crude medicinal preparations, d- chopping medicinal ingredients, e-gathering of medicinal ingredients, f- dried medicinal ingredients.

Aboriginal healers in Wayanad (Kerala), India have been retained rich traditional knowledge concerning the medicinal utility of native flora trickled down over generations, which is supported by their vast intra- ethnic diversity. There are over 550 aboriginal communities that come within 227 ethnic groups. Population of scheduled tribes and scheduled caste are respectively 1,14,969 and 27,835. The aboriginal community includes *Paniyar, Kurumar, Adiyar, Kurichiar, Ooralar, Kattunaikar, and Kadar*[16].

Traditional knowledge developed over years of observation, trial and error, and inference has largely remained with the aboriginal people, many of these classical prescriptions and secret folk recipes with outstanding curative effects have been in use from great antiquity. Despite of miraculous recuperative power, none of this therapeutics has been developed so far with the advent of modern medical and pharmaceutical technology. However, these cultures and their associated botanical knowledge may be in peril and may even become extinct. Many aboriginals in India migrate to access emerging opportunities and industrialization. This widens the gap between traditional knowledge and modern knowledge associated with work place and social skill of the developed mainstream population. The study of Ethno botanical research is deeply rooted within India. There are many examples of ethno medico botanical surveys conducted in India in the past that have recorded many botanical remedies among aboriginal groups [17].

## Conclusions

Traditional communities in Wayanad preserved many herbal remedies over generations for their community healthcare. Both males and females undertake traditional healing, but most gynecological issues were answered by females. 120 respondents including herbalists and medicine vendors reported the use of 68 herbal recipes towards cure and management of 15 urinary and reproductive complications. The diseases were included male and female urinary and reproductive diseases. The practice of polypharmacy using more than one herbal extract in a recipe was most common. They believe that the elements from different plant extracts together accomplish the recuperative substance (s). It was recorded that a total of 60 species distributed in 56 genera belongs to 38 families were identified being used in 67 different recipes. Among the 67 medicinal recipes 59 have the highest FPVS and the remaining 8 with mediocre FPVS suggesting a potential reservoir of medicinal implication. These results are in agreement with the results obtained by Subramanian et al.

Among the aboriginal communities preference to ethno pharmacology fluctuates. A higher percent of affinity (66.67) was observed among the educated age group ranging 55 -70 years and the preference augmented to 80 percent among uneducated age group of 40-45 years. Among educated highest percent of affinity

(66.67) to ethno pharmacology was noticed among the age group 55-70 years, the least percent (53.33) was among age groups of 40-45. Uneducated age group showed a remarkable percent of affinity to ethno pharmacology (80) among age group 40-45 years and the least percent was 55.56 against the age group 45-55. The educated category between ages 70-80 years had no preferences, but uneducated category of all age group articulated their preferences.

Many of the AHMK in Wayanad is slowly at the verge to disappear and this knowledge is limited to aboriginal communities and affiliated rural main stream of people few in number. Hurdles for effective transmission of this AHMK is likely due to control over percolation of such knowledge to outside people, inferior means of communication and influence of modern medicine. Validation and documentation of such valuable information was hence done in order to conserve at least a part of ethno botanical heritage. Many of these traditional recipes with good therapeutic index need scientific evaluation about their recuperative power and mechanism behind action, side effects etc. Such studies would open new vistas in the therapy of urinary and reproductive complications, also add

valuable information to the repository of national archive of traditional therapy.

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