Intergenerational transfer of ethnic medicine knowledge by tribal communities of Malappuram district in Kerala

ABSTRACT

The present study aimed to study the intergenerational transfer of the ethnic medicines related knowledge among the tribes people of Kerala. The study was conducted among three tribal communities from Malappuram district of Kerala, a district which has high number of tribal communities. Paniyans, Aranadans and Kattunaikkans are the predominant tribal communities in Malappuram. These communities are living in the fringes of Nilambur forests and depend on the forest for their livelihood. The study showed that 36.7% of elderly tribespeople have ethnic medicine knowledge compared to middle-aged (27.54%) and young people (26. 15%). Further, the young tribespeople shared about 97 citations (single or combinations of medicinal plants to treat a particular ailment/ for a single health condition), making an average of 5.7 citations per young person. Middle-aged tribespeople shared a total of 87 citations, which created an average of 4.58 citations per middle-aged person. And among the elderly category, they shared about 144 citations, which made the largest average citation of 8.47 among all the three age categories. The respondents with ethnic medicine knowledge were further asked whether they were ready to pass this knowledge to the next generation or not. Majority (51%) of respondents responded that they would pass the knowledge to the next generation only if they showed interest in it. 41.5% of the respondents expressed that they are ready to pass their knowledge to the next generation, and 8 per cent of the respondents would never pass their knowledge to the next generation. A chi-square test was done to know the significance of the relationship between the age and readiness.

Keywords: ethnic medicine, knowledge transfer, tribes

INTRODUCTION

Tribes people (Adivasis) are those who have followed ways of life for many generations that are largely self-sufficient and are different from the mainstream and dominant society[1]. They are simple, honest, hardworking and hospitable people. But economically, they are exploited, physically oppressed, socially ostracised and culturally isolated. They live in harmony with nature, assuming livelihoods that do not harm the natural ecosystem beyond repair.According to the 2011 Census of India. They constitute an important segment of the Indian population and account for nearly 8.6 per cent of the total population of India[2].

Kerala state of India, at the southernmost boundary of the Malabar Coast, has the Western Ghats on the east and Arabian Sea on the west and has a land area of 38,863 Km^2. It is a homeland of a number of tribal communities. Majority of them inhabit the western slope of the Western Ghats. In Kerala there are 36 scheduled tribes. The tribal population in Kerala according to the 2011 census is 0.4 million, which is 1.5 percent of the overall population of the state [2].

Tribes people rely on plants in their natural system predominantly for food, medicinal purpose and life style requirements. Plants are especially good for toning up loss of vitality and also to alleviate human pain and diseases[3]. Tribes have enormous repository of indigenous knowledge on plant generated medicines and their usage. This vast bank of knowledge is generally being transmitted through word-of-mouth communication from generation to generation. Due to which, this is being eroded as generations pass on. This knowledge is tightly interwoven with their beliefs, norms and culture in such a way that each tribal group has its own identity. The tribespeople have a complex relationship between the

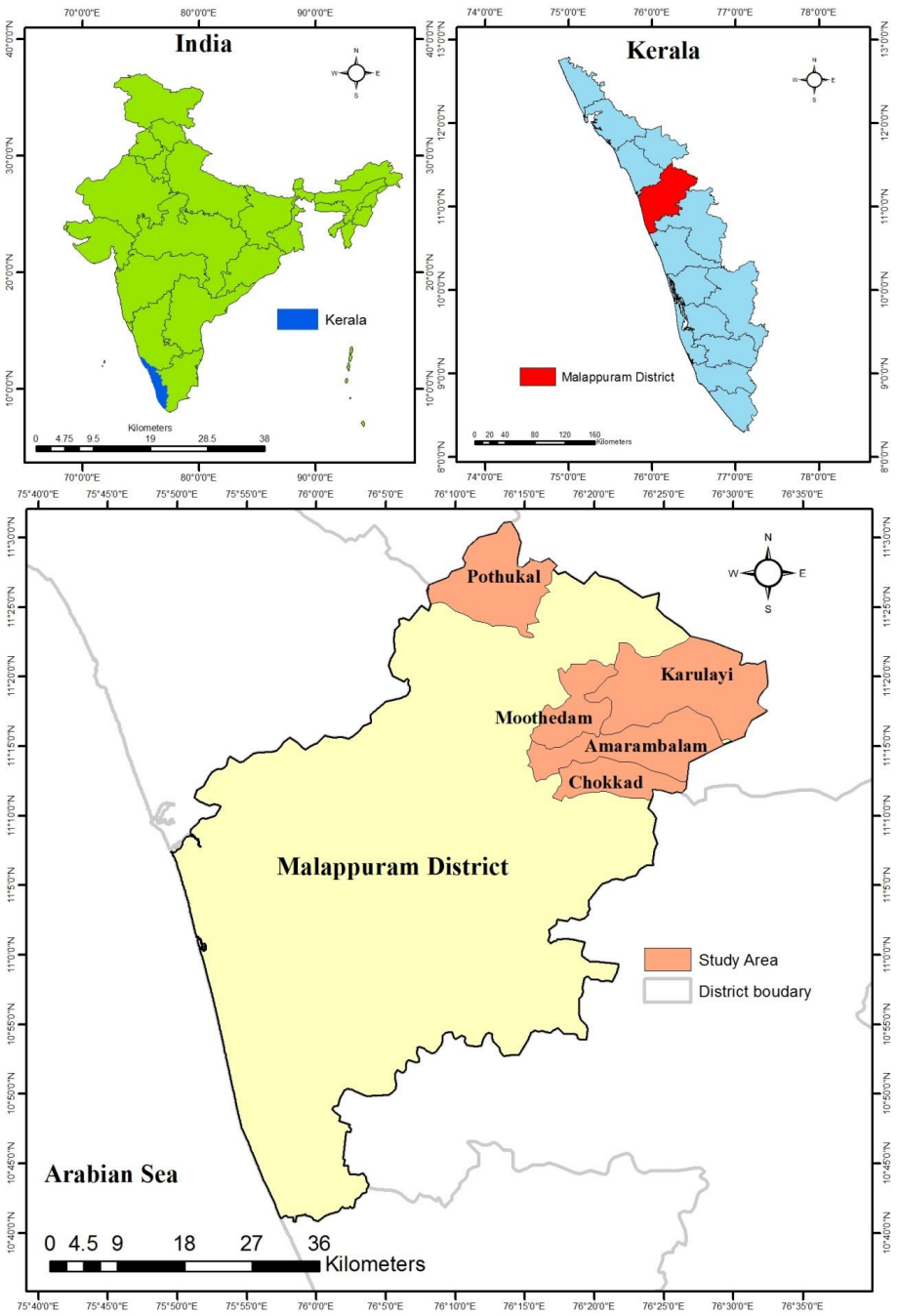
ecosystems and themselves. Those people find out their daily needs from the forests as food, plant-based drugs for curing different ailments of themselves and their livestock [4].

As per WHO statistics, over 21,000 plants are useful in the pre parathion of medicines. Of which, 90% of these are extracted from forests[5]. Throughout history aboriginal people have been the custodians of forests and have sustained healthylife-styles in an eco-friendly manner[6]. Herbs have been used from ancient time for various purposes like healing the sick and infirm. Most of the people still continue to use herbs to benefit their bodies and believed that herbs helped to keep the body in tune with nature. Each tribal community has its own knowledge and practice on ethnic medicines which are passed on from one generation to another and these are means of livelihood for the tribal *Vaidya's* or the medicinal plant collectors.The value of medicinal plants and herbs are being lost due to lack of awareness and deforestation.. Due to lack of interest among the younger generation as well as their affinity to migrate to cities for profitable jobs, there is a possibility of losing this wealth of knowledge in the near future [7].

In this context, the present study aimed to findout the trends in intergenerational transfer of knowledge related to ethnic medicines among the tribes people of Malappuram district in the state of Kerala. This study tried to explore the knowledge level of three age categories (young, middle aged and elderly)by using various methods.

Study area: The Scheduled Tribe Population in the Malappuram District is 14,410, and that of Nilambur Taluk is 13,638 as per the available records[2]. That means the lion's share (94.64%) of the tribespeople live in the Nilambur Taluk of Malappuram district. They live in 2882 families comprised of 182 tribal settlements mainly stretched in the hill ranges and valleys of Nilambur Taluk. And also KIRTADS (Kerala Institute for Research Training & Development Studies of Scheduled Castes and Scheduled Tribes) listed Nilambur as one of the major areas having tribal settlements in Kerala along with Wayanad, Kasargod, Attappadi, Parambikulam, Idukki and Nedumangad[8]. Therefore the Nilambur Taluk was purposefully selected for the study. Nilambur valley is located between 11°26' and 11°9' N latitude and between 75°48' and 76°33' longitude and with altitudes ranging from 50 to 2500m AMSL.

Selection of Tribal Communities: The three predominant tribal communities in Nilambur Taluk, namely Kattupaniyas, Kattunaikkar and Aranadans, who lead a lifestyle more dependent on the forest by involving in minor forest produce collections were selected purposively for the study.



Selection of samples: Two colonies each from three tribal communities were selected randomly from 3 forest ranges of Niambur Taluk; namely Karulayi, Kalikavu and Vazhikkadavu ranges. The colonies were selected randomly from among these range areas. The colonies were distributed in five Panchayaths. The Panchayaths are Karulai, Pothukallu, Chokkad, Amarambalam and Moothedam. Thus a total of six tribal colonies namely Nedungayam Paniya colony, Theekkadi Paniya colony, Appankappu Kattunaikka colony, Pattakkarimbu Kattunaikka colony , Chokkad Aranadan colony and Kottupara Aranadan colony were selected for the study. 30 respondents were selected randomly from among each tribal colony. Which made the total tribal respondent sample size of the study to 180 numbers.

METHODOLOGY

The variable intergenerational transfer of ethnic medicine knowledge is operationally defined as the extent to which ethnic medicine knowledge of tribespeople were transferred (distributed among elderly, middle aged and young age categories) and the extent to which they are ready to transfer inside the tribal community.

To measure the extent of the knowledge which already transferred inside and among the tribal communities, a survey was conducted among the tribespeople to document their ethnobotanical knowledge. The respondents were asked about the medicinal plant uses they knew to cure various ailments. The knowledge of 30 ailments was documented.

The sample was selected so that a fair proportion of respondents were included from among each age category (Young age, middle age and old age).The young category in this study is operationally defined as the tribal respondents of less than 40 years of age. The middle-aged category is operationally defined as the tribal respondents with an age range of 40 to 60 years (including both). The elderly category in this study is operationally defined as the tribal respondents of age above 60 years. The distribution of tribal respondents of the study according to their age is shown in table-1

Table 1. Distribution of respondents according to age in the sample

Category	Frequency	Percentage
Young	65	36.1
Middle aged	69	38.3
Elderly	46	25.6
Total	180	100.0

Comparison of respondents with and without ethnic medicine knowledge in the different age categories

The respondents were categorised broadly into respondents with ethnic medicine knowledge and respondents without ethnic medicine knowledge. The respondents who gave plant based remedies for at least one ailment were considered as respondents with ethnic medicine knowledge in this study. The remaining respondents who informed that they don't know any plant-based remedies were considered tribal respondents without knowledge of the ethnic medicines.The number and percentage of respondents with and without knowledge on ethnic medicines were listed based on their age category.

Comparison of the citations shared by each age category

A two-way table was made to compare the knowledge level of tribespeople among the three age categories on ethnic medicines for curing various ailments or for various health conditions. The plant-based remedies for 30 diseases or health conditions were asked to each respondent. The number of respondents who gave the responses for each disease was noted. A single remedy to cure a particular disease which is shared by a single tribal man/woman is taken as one citation[9]. Both single and combination of plant species to cure one particular disease can be considered as one citation. Then the data were categorised based on the three age groups; viz. young, middle aged and elderly. The mean citation for each age group was found by dividing the total citations with the number of respondents shared their knowledge in each age category.

Extent of readiness of the tribespeople to transfer the ethnic medicines knowledge inside the tribal community

Here, the respondents who shared their knowledge of ethnic medicines were further asked about their readiness to transfer this knowledge. The answers were arranged in the frequency table. The readiness of young and elderly tribespeople were compared using chi-square test. The response "Yes" was considered as a positive response in this test and it is assumed that such respondents were very open and ready to transfer their knowledge. The responses "Never" and "Yes, only if they are interested and requested" were taken as

negative responses (Not ready to share), and it is assumed that these responses show their reluctance and hindrance towards sharing the knowledge. Then, the significance of the relationship between readiness and age was found using the chi-square test.

The documentation of ethnic medicine knowledge of each age category

The ethno botanical knowledge of the three age categories was listed out to see the level of ethnic medicine knowledge of each age category. This is helpful to get a glimpse of the difference in knowledge among different age categories.

RESULT AND DICSUSSION

Comparison of respondents with and without ethnic medicine knowledge in different age categories

Out of the total 180 respondents interviewed, only 53 respondents were willing to express their knowledge. These 53 people gave plant-based remedies for at least one ailment; therefore, they were considered respondents with ethnic medicine knowledge in this study. The remaining 127 respondents who informed that they didn't know any plant-based remedies were considered tribal respondents without knowledge of the ethnic medicines for this study.

The number and percentage of respondents with and without knowledge on ethnic medicines were listed based on their age category in Figure 1.

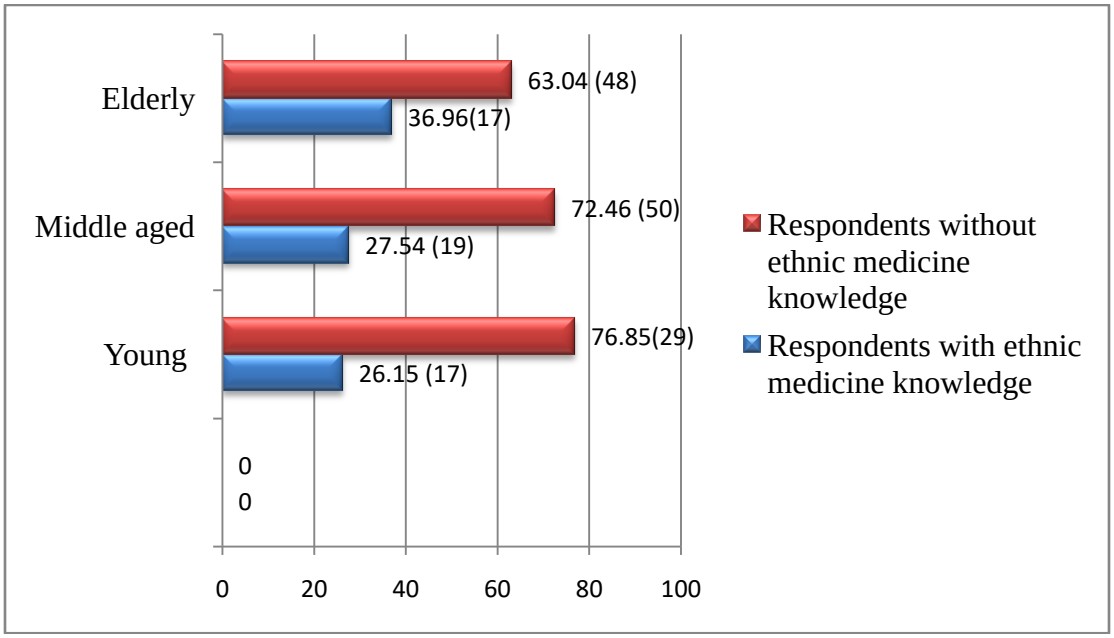


Figure 1: Repondents with and without ethnic medicine knowledge in different age categories

The result shows that 76.85% of the young tribespeople don't have any knowledge on ethnic medicines. In the middle aged category, 72.46 % of the people agreed that they don't have any knowledge on ethnic medicines and in the elderly age category, 63.04% of the people expressed their lack of knowledge on ethnic medicines. This is a clear trend of a gradual reduction in ethnic medicine knowledge from the older to the younger generation.

A similar result was obtained in the study of Prakash etal [10]. They studied about the ethnic medicines used by Kani tribes of southern western ghats. In their study they found out that the tribes possess well developed system of traditional medicine. The tribes know about number of rare medicinal plants and their applications. But all these valuable knowledge is gradually lost by some superstitious believes.

Comparison of the citations shared

The knowledge on tribes people in treating various ailments were found. A two way table was made to present the number of tribal respondents who knew the plant-based remedies for various conditions. The results were categorised in a tabular form (Table 2).

Table 2: No. of tribespeople with knowledge on plant-based remedies against the various ailments or for different health conditions

Ailments	**No. of citations (plant-based remedies) expressed by the tribespeople**			
	Young	**Middle-aged**	**Elderly**	**Total**
Wound healing	10	5	8	23
Swelling	4	8	5	17
Fever	10	15	11	36
Cold and cough	15	5	7	27
Vomiting	0	0	1	1
Headache	5	0	4	9
Skin diseases	7	7	8	22
Rheumatism	4	1	4	9
Stomach pain	6	9	5	20
Abdominal disorders	0	1	3	4
Urinary infection	4	2	3	9
Joint pain	0	1	7	8
Breathlessness	0	1	8	9
Snake envenomation	0	0	7	7
Hair growth	11	3	6	20
Diarrhoea	0	3	5	8
Burns	0	1	3	4
Leprosy	0	2	1	3
Jaundice	0	1	2	3
Piles	0	0	4	4
Epilepsy	5	5	2	12
Toothache	0	0	3	3
General vigour	5	2	9	16
Reproductive disorder	0	1	0	1
Menstrual cramp	4	3	5	12

Vaginal discharge	2	0	6	8
Postpartum caring	0	6	6	12
Lactation improvement	0	2	5	7
Skin brightening, Removing scars	3	0	2	5
Eye infection	2	3	4	9
Total	**97**	**87**	**144**	**328**

The result shows that the citations of plant-based remedies by tribespeople in the young generation are 97 whereas for the middle aged people, the citations are 87. The old aged tribespeople expressed the highest number of citations(144). This indicates that the knowledge among the old generation is relatively high. The reason would be that they were highly dependent on forest and its produce for all their daily needs, including food and their treatment needs. But, as time changed, the significance of forest plants came down and most of the usage remained only in their memories. The treatment and cure is blended with their beliefs and rituals. Therefore, the knowledgeable elders were very much hesitant to pass their knowledge to the younger generation as they don't find such religiousness in the younger generation. Lack of application of the knowledge in their day to day life leads to gradual erosion of this wisdom from their (old generation's) own memories. Most of the knowledgeable elders or *Vaidyas* are not full time or not even part-time health practitioners in the community. The belief in ethnic medicine treatments in the majority of the tribespeople is diminishing due to modernisation and access to cheap and modern medical services of nearby primary health centers.Middle aged tribes also had similar experiences. They also give importance to the rituals and beliefs. But they complained that the old aged people are not ready to pass the knowledge even to their own son/ daughter. They also added that the elderly tribespeople have more beliefs and are very difficult to convince.Young tribespeople were generally open to outsiders and they are ready to share whatever they knew, but their level of knowledge on ethnic medicine is very low among them. Only 10 members out of 65 agreed that their elder members have shared a part of their knowledge on ethnic medicines with them.

In this study, 17 tribespeople of the young tribespople shared about 97 citations, making an average of 5.7 citations per person in the young age category. Nineteen middle aged tribespeople shared a total of 87 citations, which creates an average of 4.58 citations per person in the middle aged category. And among the elderly category, a total of 17 tribespeople shared about 144 citations, which makes the largest average citation of 8.47 for elderly age group among three age categories (Table 3).This result also showed that knowledge on ethnic medicine is diminishing over generations

Table 3: Average no. of citations shared by each age category

Age	Average no. of Citations	Total no.of citations
Young aged	5.7	97
Middle aged	4.57	87
Elderly	8.47	144
Total	6.19	328

Though majority of the old aged people are very reluctant to share their knowledge, their knowledge is recorded as high in this study. The average citation would be many times higher than the other two age categories if the elderly freely shared their knowledge.

Extent of readiness of the tribespeople to transfer the ethnic medicines knowledge inside and among the tribal communities

Out of 180 respondents, 53 tribal respondents shared their knowledge of ethnic medicines. They were asked whether you are ready to pass this knowledge to the next generation or not. The answers were arranged in the frequency table given below (Table-5).

Table 5: responses of tribal respondents on readiness to pass

Responses	Frequency	Percent
Yes, sure	22	41.5
Only if they are interested and requested	27	50.9
Never	4	7.5
Total	53	100.0

Out of the total respondents, the majority (50.9 per cent) respondents responded that they would pass the knowledge to the next generation only if they showed interest in it. They also added that if the young generation doesn't request for the knowledge, they will not reveal it. Most of the knowledgeable elder's responses were included in this category. 41.5% of the respondents expressed that they are ready to pass their knowledge to the next generation without any conditions. The majority of these responses came from young aged tribespeople. But they agreed that they don't have such a vast kind of knowledge to pass on; but if they get that from their knowledgeable elders, they will pass it over to the next generation. 7.5% of the respondent groups responded that they will never pass their knowledge to the next generation. Among them, three of the respondents were from the old age category and the remaining one was from the middle age category.

Chi square test to compare the significance of relationship with age and readiness to share the ethnic medicine knowledge

The readiness of young and elderly tribespeople was compared using chi square test. For this test, those tribespeople who responded "Yes" was considered as positive response and it is assumed that the respondents were very open and ready to transfer their knowledge. The responses "Never" and "Yes, only if they are interested and requested" were taken as negative responses (Not ready to share) and it is assumed that these responses shows their reluctance and hindrance towards sharing the knowledge. Here, the readiness of young age and old age were compared using chi-square test (table 6).

Table 6: Age * Readiness Cross tabulation

			Readiness		Total
			Ready to pass	Not ready to pass	
Age	Young	Count	11	7	18
		% within Readiness	73.3%	36.8%	52.9%
	Elderly	Count	4	12	16
		% within Readiness	26.7%	63.2%	47.1%
Total		Count	15	19	34
		% within Readiness	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.480[a]	1	.034		
Continuity Correction[b]	3.135	1	.077		
Likelihood Ratio	4.611	1	.032		
Fisher's Exact Test				.045	.037

Linear-by-Linear Association	4.349	1	.037		
N of Valid Cases	34				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.06.
b. Computed only for a 2x2 table

Conclusion: Here, the P value is 0.034. If the P value is less than or equal to 0.05, then the test is significant at 0.05 significance level. That means there is a significant relationship between the variables age and their readiness to share their ethnic medicine knowledge. That means, here with increasing age, the readiness of the tribespeople to share their ethnic medicine knowledge decrease (from 73.3% to 26.7%).Here, the Cramer's V test value is 0.363, which means the there is a medium effect size in this study. That means the variable age has medium effect on the variable readiness here.

This result shows the narrow-mindedness of old age people as well as the reason for the diminishing trend of ethnic medicine knowledge over generations. One of the reasons behind the lack of readiness is that a good proportion of the elder people are not in good term with their children. Some of them live in separate houses alone. It is also observed in the survey that the younger generation doesn't give much respect to elders, which further negatively affects their relationship. Old generation's strict adherence to their age-old beliefs and deeds deter the young generation from them.

A similar result was obtained in the study of Prasad and associates[11]. They reported that the tribal groups do not want to share their ancient traditional knowledge with other people especially to outsiders. Moreover, the existing knowledge on traditional uses of medicinal plants were declining fast because of the lack of interest of young people to learn the traditional knowledge from the old tribal medical practitioner.

The documentation of ethnic medicine knowledge of each age category

After conducting the survey to document the ethnic medicines knowledge of tribes people in 6 tribal colonies. A total of 104 plant species were listed out which are used in single or combined form to make plant base remedies for various treatments. The details are listed in Table 3.

Table 3: Medicinal plants known by the three age categories in Malappuram district

Ailments	**Plant species used for curing various ailments/ for health conditions**		
	Young	**Middle aged**	**Elderly**
Wound healing	*Hemigraphis colorata (Murikkooty)* *Lantana camara(Arippovu)*	*Lantana camara (Arippovu)* *Hemigraphis colorata (Murikkooty)* *Mimosa pudica (Thottavady)*	*Hemigraphis colorata (Murikkooty)* *Emilia sonchifolia (Muyal cheviyan)* *Atrocarpus heterophyllus (Plaavu)* *Hemigraphis colorata (Murikkooty)* *Cyclea peltata (Padathaly)*
Swelling	*Abrus precatorius (Kunni)* *Curcuma longa (Manjal)*	*Ficus hispida(Parakam kaya)* *Argemone mexicana. (Malayeruma)* *Curcuma longa (Manjal)*	*Vernonia anthelmintica (Kattujeerakam)* *Argemone mexicana (Malayeruma)* *Curcuma longa (Manjal)* *Premna serratifolia (Munja)*
Fever	*Plectranthus barbatus (Panikkoorkka)* *Ageratum conyzoides(Appa)* *Premna serratifolia (Munja)*	*Plectranthus barbatus (Panikkoorkka)* *Premna serratifolia (Munja)*	*Ageratum conyzoides(Appa)* *Plectranthus barbatus (Panikkoorkka)* *Sida alinifolia (Kurunthotty)* *Andrographis paniculata (Nilaveppu)*
Cold and cough	*Ocimum sanctum (Thulasi)* *Zingiber officinale ()Inchi* *Piper nigrum (Kurumulak)*	*Ocimum sanctum (Thulasi)* *Zingiber officianale (Inchi)*	*Andrographis paniculata (Nilaveppu)* *Ocimum sanctum (Thulasi)* *Ageratum conyzoides (Appa)* *Piper longum (Thippalli)*
Headache	*Erythrina stricta (Panimurukku)* *Melia dubia (Malaveppu)*		*Erythrina stricta (Panimurukku)* *Melia dubia (Malaveppu)*

Skin diseases		*Calycopteris floribunda (Pullani)* *Datura metel (Vella Ummam)* *Andrographis paniculata(Kiriyath)* *Butea monosperma (Plaash)* *Spondias pinnata (Kattambayham)* *Tephrosia purpurea (Kozhinjil)* *Rauwolfia serpentina (Amalpori)*	*Senna alata (Aanathavara)* *Ammannia baccifera (Kalloor vanji)* *Ixora coccinea (Thechi)* *Azadirachta indica (Veppu)* *Tephrosia purpurea (Kozhinjil)* *Andrographis paniculata (Kiriyath)* *Hydnocarpus pentandrus (Marotti)* *Butea monosperma (Plaash)*
Rheumatism	*Justicia gendarussa (Vathakkolli)* *Cardiospermum helicacabum (Uzhinja)*	*Nelli (Emblica officinalis)*	*Justicia gendarussa (Vathakkolli)* *Cassia fistula (Konna)* *Azadirachta indica (Veppu)*
Stomach pain	*Aegle marmelos (Koovalam)*	*Eclipta alba (Kayyoonni)* *Rauwolfia serpentina (Amalppori) + Elephantopus scaber (Anachuvadi)* *Eclipta alba (Kayyoonni) Aegle marmelos ((Koovalam)* *Emilia sonchifolia (Muyal cheviyan)*	*Glycosmis arborea (Paanal)* *Rauwolfia serpentina (Amalppori) + Elephantopus scaber (Anachuvadi)+ Dioscorea alata (kachil)* *Ensete superbum (Kallu vazha)* *Euphorbia nivulia (Kallippala),* *Clitoria ternatea (Shamkhupushpam)* *Aegle marmelos (Koovalamleaf)*
Urinary infection	*Ammannia baccifera (Kalloor vanji)*	*Ficus hispida* *(Paroth)*	*Wrightia tinctoria (Dhanthapaala) +* *Ensete superbum (Kallu vazha)+Tragia involucrate (Kattu thuva)* *Aegle marmelos ((Koovalam)*
Joint pain		*Ricinus communis (Avanakk)*	*Ricinus communis (Avanakk)* *Cymbopogon citratus (Inchippullu)*
Breathlessness		*Calotropis gigantean (Erukku)*	*Tragia involucrata (Kattu thuva)*

		Ricinus communis (Avanakk)	*Solanum violaceum (Puthiricchunda)* *Plumbago zeylanica (Vella kkoduveli)*
Snake envenomation			*Momordica charantia (cheriya kaippa)+* *Curcuma longa (Manjal) Cassia fistula (Konna) Anaphyllum wightii (Keerikkizhangu)* *Vernonia cineria (Poovam)* *Clitoria ternatea (Shamkupushpam) Rauwolfia serpentina (Sarppagandhi) +Curcuma longa (Manjal)+ Solanum violaceum (Cheru vazhuthana) Aristolochia indica (Karalakam)*
Hair growth	*Hibiscus rosasinensis (Chembarathy)* *Lawsonia inermis (Mailanchi)* *Eclipta alba (Kayyonni)* *Indigofera tinctoria (Neelamari)* *Sida alnifoila (Kurunthotty)*	*Eclipta alba (Kayyonni)*	*Lawsonia inermis (Mailanchi)* *Emblica officinalis (Nelli)* *Citrus limonum (Kattunaranga)* *Wrightia tinctoria (Danthappala)* *Eclipta alba (Kanjunni)*
Diahorrea	*Zingiber zerumbet (Kattinchi)*	*Strychnos nuxvomica (Kanjiram)* *Persicaria chinensis (Modanthi)*	*Bryophyllum pinnatum (Elamulachi)* *Zingiber zerumbet (Kattinchi)* *Alstonia scholaris(Paala)*
Burns		*Wrightia tinctoria (Danthappala)*	*Madhuka indica (Illippa)* *Wrightia tinctoria (Danthappala)*
Leprosy		*Datura metel (Vella ummam)*	
Jaundice		*Physalis minima (Njottakka)*	
Piles			*Curculigo orchioides (Nilappana)*
Epilepsy		*Curculigo orchioides (Nilappana)* *Plumbago zeylanica (Vellakkoduveli)*	*Calotropis gigantea (Erikku)*
Tooth ache		*Spilanthes acmella (Palluvedana chedi)*	*Spilanthes acmella (Palluvedana chedi)*

General vigour	*Asparagus racemosus. (Shathavari)* *Hemidesmus indicus(Nannari)*	*Premna serratifolia (Munja)*	*Holostemma annularis (Adapathiyan)* *Boerhaavia diffusa (Thazhuthama)* *Hemidesmus indicus (Nannari)* *Premna serratifolia (Munja)*
Fertility related		*Saraca indica (Ashoka) (for conception)*	*Madhuka indica Gmel. (Illippa) (anti fertility)*
Menstrual cramp	*Trigonella foenum-graecum (Uluva)*	*Trigonella foenum - Graecum (Uluva)*	*Trigonella foenum-graecum (Uluva)*
Vaginal discharge	*Ammania baccifera (Kalloorvanji)*		*Asparagus racemosus Willd. Liliaceae (Shathavari kkizhangu)*
Post partum caring		*Cyclea peltata (Paadakkizhangu)* *Holostemma adakodien (Adapathiyan)* *Pterocarpus marsupium (Venga)* *Cycas circinalis (Eenth)*	*Mesua ferrea (Nagapoov)* *Pseudarthria viscid (Moovila)* *Asparagusr (Shathavari)* *Curcuma longa (Manjal)* *Pterocarpus marsupium (Venga)* *Ochrocarpus longifolia (Nagakesara)*
Lactation improvement	*Cocos nucifera (Thenga)* *Moringa oleifera (Muringa)*	*Moringa oleifera (Muringa)*	*Cocos nucifera (Thenga)*
Skin brightening, Removing scars	*Curcuma longa (Manjal)* *Pterocarpus santalinus (Raktha chandanam)*	*Curcuma longa (Manjal)* *Pterocarpus santalinus (Raktha chandanam)*	*Pterocarpus santalinus (Raktha chandanam)*
Eye infection	*Vernonia cineria Less. (Poovam kurunnila)*	*Vernonia cineria Less. (Poovam kurunnila)*	*Vernonia cineria (Poovamkurunnila)* *Persicaria chinensis (Modanthi)*
Total plant spp.	30	44	75

The data in table-7 shows that the elderly tribes people know usage of 75 plant species to cure various diseases and also for different health conditions, whereas middle aged group of tribes people know 44 plants and young people know only 30 plants.

This result againt clearly showed the decreasing trend in the ethnic medicine knowledge with decreasing age. It is evident that the tribes people are becoming less interested in preserving or transferring knowledge on ethnic medicine.The traditional knowledge related to medicinal and aromatic plants was largely associated with older people in the village and the transmission of this knowledge to young generation is rather slow [12].

The elderly tribes people were extremely reluctant to open up their knowledge. They consider it as sacred and not meant to be shared with outsiders. The widespread belief that making the knowledge open to people would hamper the disease healing properties of ethnic medicines and it must be kept confidential, discourages them from disclosing any knowledge related to tribal medicines. They believed that disease will be cured, only when the *Vaidya* and patients have faith in it and only when they practice it religiously following certain rituals and procedures. Therefore, it can be assumed that the actual knowledge possessed by the old generation is much more than what is actually shared with the researcher.The tribes of middle aged people were relatively open in sharing their knowledge. But they agree their gradual diminishing of traditional knowledge is due to lack of practice in their daily life.The younger generation was supportive and very open during the survey. They agreed that they don't have even a quarter of the knowledge compared to their grandparents. They also expressed the fear of extinction of this valuable knowledge in the near future as their kids show no interest in such things.

CONCLUSION

This study found that the number of persons with ethnic medicine knowledge is relatively high in the old generation. The elderly tribes people are a treasured source of ethnic medicine knowledge. But unfortunately, they are very reluctant to transfer this knowledge to the next generation. This trend can be seen clearly throughout this research. The young and middle-aged persons have shared less number of medicinal plants and their uses compared to elders. The treatment and cure are blended with the beliefs and rituals of the tribal community. Therefore, the knowledgeable elders were very much hesitant to pass their knowledge to the younger generation as they did not find such religiousness in the younger generation. This may result in the permanent loss of this valuable knowledge. Therefore efforts should be taken to document the entire tribal knowledge including knowledge related to ethnic medicines. Awareness should be given to elders by convincing them about the value and possibilities of this knowledge. Few younger tribesmen were highly passionate about proper documentation of this knowledge. Such members have to be encouraged and entrusted to preserve this knowledge base and a repository needs to be maintained at each district level. The rapid rate at which the existing traditional knowledge is becoming obsolete, eroded and pushed to oblivion has to be checked for conserving and improving the natural resources. The conservation and utilization of this traditional knowledge will help in new crop domestication and crop diversification [13].

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