



Research Article

ISSN: 2454-5023
J. Ayu. Herb. Med.
2021; 7(3): 165-175
Received: 13-06-2020
Accepted: 27-07-2021
© 2021, All rights reserved
www.ayurvedjournal.com
DOI: 10.31254/jahm.2021.7301

Comparative Assessment of Traditional Medicine Utilization in Three Adjacent Districts of East Hararghe, Ethiopia

Negussie F. Bussa¹

¹ Department of Food Science and Postharvest Technology, Haramaya Institute of Technology Haramaya University, P. O. Box 138 Dire Dawa, Ethiopia.

ABSTRACT

Traditional medicine (TM) is the earliest culturally-based alternative medicine extensively practised as a primary health care system in developing countries. The current study was designed to make the comparative assessment of TM utilization from three adjacent districts of east Hararghe, Ethiopia using a community-based cross sectional study. Study participants were selected using the systematic random sampling technique method until the required sample size was reached in each district. The majority of the respondents from the three districts were rural households, Muslims, 31 to 40 years old, illiterate, male-headed with seven or more family-sized households and had less than 1000 birr monthly income. The most frequently used homegrown TM remedies were *Allium sativum* (69.17%, 67.13%, and 68.42%), *Capsicum spp* (67.14%, 68.43%, and 69.33%), *Guizotia arborescens* (61.52%, 63.19%, and 59.17%) and *Ocimum lamiifolium* (59.11%, 61.13%, and 60.19%) in Haramaya, Meta and Kombolcha districts, respectively. Family and friends were the most trusted sources of information in utilizing TM. The highest commonly occurring diseases were diarrhoea, fever, Malaria and common colds. The majority of respondents used TM through the use of traditional healers (THs). Sick people in the community were treated at the serious stage of the illness. Grandmothers/fathers served as THs and they used herbs made in liquid form to treat the sick. The major factor impeding the respondents not to use modern health facilities are inaccessibility and unaffordability of western medicine and culturally accepted TM utilization in primary health care system the districts. Keywords: TM, Homemade remedies, Haramaya, Meta, Kombolcha, east Hararghe, Ethiopia.

Keywords: Traditional Medicine, Cross sectional study, Ethiopia.

INTRODUCTION

Traditional medicine (TM) is an earliest culturally based healthcare practice orally transferred through generations applied by traditional healers (THs) holistically to the patients. It is an approach, knowledge, and belief incorporating plants, animals and wide varieties of practices to treat, diagnose and prevent diseases to maintain health and well being [1, 2]. It is often underestimated, but equally important with that of western medicine [3-10]. TM has been reported worldwide as an integral component of the cultural heritage of many communities in the developing world [10-12].

In the rural communities, where TM is often the only available and affordable treatment, the use of herbs and other sources of TM combined with good knowledge of THs have played crucial roles in the livelihoods of people [13, 14].

The use and importance of herbal medicine have steadily increased in recent years [14]. This tendency could be due to the fact that TM is natural and have no side effects than the western medicine [15]. It is not through chance that close to 80% of the population in the developing countries are depending on TM and the practices of THs which are playing essential roles in the delivery of primary health care to local people in poor resource settings, which increased the demand and popularity of TM [16, 17].

In the last decade, there has been a global increase in the use of traditional and complementary/alternative medicines in both developed and developing countries. The reasons could be cultural acceptability, perceived efficacy, affordability, accessibility and psychological comfort. The other factors are inaccessibility of modern health services in terms of geography, cost or time, shortage of well-trained modern health professionals [18-22].

Many African countries utilize TM for primary health care system, because western medicine is expensive and inadequate. For instance, 80% Ethiopians, 70% Benin, 70% Rwandans, 60% Tanzanians and 60% Ugandans use TM as their primary health care [23, 24].

***Corresponding author:**

Negussie F. Bussa

Department of Food Science and Postharvest Technology, Haramaya Institute of Technology Haramaya University, P. O. Box 138 Dire Dawa, Ethiopia.
Email: negussiebussa[at]yahoo.com

Ethnomedicinal studies have been conducted to document the practice of herbal medicine among urban and ethnic communities to stress the important plant species commonly used in various health care systems [25-27]. Such studies could be a useful step to find new crude herbal recipes that are commonly applied to treat many diseases that are not curable by standard healthcare systems [28, 29].

In many developing countries, medicinal plants have not been well studied, tested or documented. Most of the information is still in the hands of THs and knowledge of healers is either lost or passed to generations by the word of mouth. Thus, ethnobotanical research attempts to document the knowledge of the healers in the community in order to reserve it for future use [7, 17].

Although the modern health system started in Ethiopia in the beginning of the twentieth century, the growth and development of modern health care system in Ethiopia as a whole has been very stunted and to date, its coverage is much less than 50% of the population. The vast majority of the rural populations, therefore, still depend on TM and its practitioners [30-33].

Many of the districts in east Hararghe are rural setups with deficient health care infrastructures. The districts are less accessible by modern transport. They have no clean water supply and the majority of the populations are malnourished [34]. Farmers are growing khat and there is an ever-growing demand both for domestic consumption and for the export market. As a result, diseases transmitted through unclean water, khat and flies are very high in the districts [35, 36]. Even for communities in the towns, modern health care services and service providing institutions are not only insufficient, but also inaccessible and unaffordable [37].

In light of these situations, the contribution of TM to public health care system in the adjacent districts of east Hararghe is not well documented and studies conducted so far are limited on the perceptions and practices of modern medicine. Therefore, the purposes of this study were to explore and document the magnitude of TM utilizations and its contribution in the primary health care system of the three adjacent districts of east Hararghe [38].

MATERIALS AND METHODS

Study areas

The study was carried in Haramaya, Meta and Kombolcha districts (locally known as Woredas) of east Hararghe, Oromia regional state, Ethiopia.

Haramaya is one of 24 districts in east Hararghe zone which is located at 520 km from Addis Ababa; capital city of Ethiopia, and 20 km from the historical city, Harar, with a total land area of 525.64 sq km. A survey of the land in Haramaya district shows that 36.1% is arable or cultivable, 2.3% pasture, 1.5% forest, and the remaining 60.1% is considered built-up, degraded or otherwise unusable. Khat, vegetables and fruits are important cash crops. Its elevation is approximately 2000 m a.s.l. and the mean annual temperature and relative humidity are 18°C and 65%, respectively. An annual rainfall is approximately 900 mm, with a bimodal distribution pattern, peaking in mid April and mid August.

Meta is also one of the districts adjacent to Haramaya district of the eastern Hararghe Zone, Oromia Regional State. It is located at 445 km from the capital Addis Ababa and 80 km west of Harar town. Meta District is located between 9°0'09" to 9°0'31" N latitude and 41°0'29" to 41°0'44" E longitude. Altitude of Meta district is 2830 meters above sea level. The annual rainfall amount ranges from 600-900 mm and the temperature ranges between 15 °C-37 °C.

Kombolcha is found in east Hararghe zone of Oromia Regional State of Ethiopia. A survey of the land in Kombolcha shows that 16.8% is arable or cultivable, 1.7% pasture, 3.9% forest, and the remaining 77.6% is considered built up, degraded or otherwise unusable. Khat, fruits and vegetables are important cash crops of the district.

Study design

Community based cross sectional study was conducted to assess TM utilization and associated factor among households in Haramaya, Meta and Kombolcha districts. The study was conducted for 136 days (on average 44 days for the three districts) from January 15 to June 20, 2019 [39, 40].

Population

Inclusion criteria

All head of households in Haramaya, Meta and Kombolcha districts willing to participate in the study

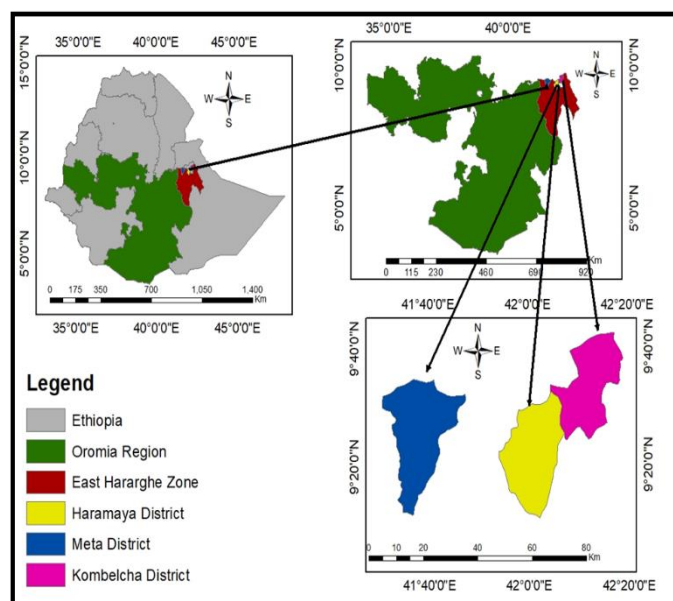


Figure 1: Map of three adjacent districts of east Hararghe zone of Oromia Regional State, Ethiopia

Exclusion criteria

Referring to all head of households in Haramaya, Meta and Kombolcha districts not willing to participate in the study

Source population

The source population for this study was heads of households in Haramaya, Meta and Kombolcha districts.

Study population

The study population for this study was head of households in Haramaya, Meta and Kombolcha districts, who were randomly selected during January 15 to June 20, 2019.

Sampling unit

Head of households in Haramaya, Meta and Kombolcha districts willing to participate in the study

Sample size and sampling technique

The sample size was calculated by using a single population proportion calculation formula considering the following assumptions.

$$n = \frac{X^2 * N * P * (1 - P)}{(ME)^2 * (N - 1) + (X^2 * P * (1 - P))}$$

Where:

n = sample size

X² = Chi – square for specified confidence level at 1 degree of freedom, X² = 6.635; α = 0.01

N= Population size

P = Population proportion (P = 0.50)

ME = Margin of error (degree of accuracy) (ME = 0.05)

Since the level TM utilization in the Haramaya, Meta and Kombolcha districts were not clearly known, 50-50% level usage was used.

The sampling populations (N) for Haramaya, Meta and Kombolcha districts [41] were 250179, 253090, and 122381, respectively, and the sample size (n) was calculated for each by using the above formula [42] as follows.

For Haramaya District:

$$n = \frac{6.635 * 250179 * 0.5 * 0.5}{(0.05)^2 * (250179 - 1) + (6.635 * 0.5 * 0.5)} = 662$$

Similarly, the minimum sample sizes of 662 and 660 were calculated for Meta and Kombolcha districts, respectively.

Sampling technique

Systematic random sampling techniques were used to assess head of households from the prepared data frame until the required sample size allocated for each district was reached. Selected study subjects who refused to participate in the study were considered as non-respondent.

Data collection and instrument

Structured quantitative questionnaires having both open and closed questions were used to assess TM utilization and associated factors in selected districts of Haramaya, Meta and Kombolcha. The questionnaires were prepared in English language and translated to Afan Oromo and Amharic. Trained data collecting technicians were used the questionnaires to collect data from each district.

Pre-test

Instruments were pretested in the field in order to assure whether they were efficient enough to carry out the actual study. About 10 households from study area were included in pre-test which were later on excluded from the sample. Instruments were found to fit to collect the data and the questionnaires also adjusted as observed from the pre test.

Data collectors training

Three data collectors supervised by principal investigators were involved in data collection process. Training was given to the data collectors on how to interview head of the households and fill the questionnaires.

Data processing and analysis

After checking the completeness of the information collected, data was tallied and analysed into tables and figures using averages of frequencies and percentages. Averages of frequencies and percentages were calculated using simple calculators.

Data quality control

The data collection processes were supervised and the collected data were checked for accuracy and reliability.

Ethical considerations

Ethical clearances were obtained from each district head quarters. Letters of permission and cooperation to collect data were sent to every Kebele (sub – district) and village leaders. The information obtained from the respondents was used only for the intended purpose and all information kept confidential. Structured and pre-tested questionnaires were prepared first in English and then translated into local language (Afan Oromo) for data collection. The Afan Oromo version was again translated back to English to check consistency and finally Afan Oromo version was used for data collection. Six female nurses and two other supervisors were trained and used in data collections and supervisions.

RESULTS

Distribution of traditional medicine (TM) utilizations in the three adjacent districts of east Hararghe, Ethiopia

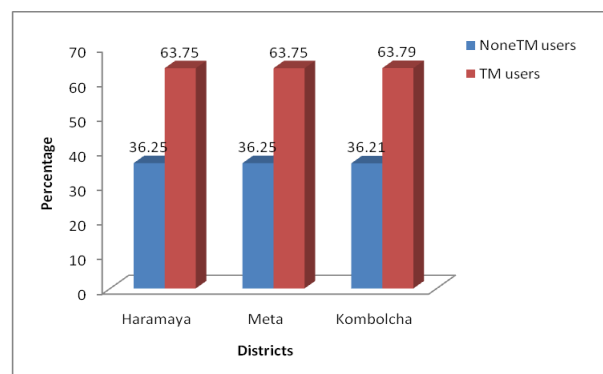


Figure 2: TM and Non TM users of households in three adjacent districts of east Hararghe, Ethiopia

Figure 2 shows TM and non TM users of the three districts of east Hararghe. There were 422(63.75%), 422(63.75%), and 421(63.79%) TM users in Haramaya, Meta and Kombolcha districts, respectively.

Socio demographic profile of the districts

The socio-demographic of the three adjacent districts included

frequency distribution of selected variables describing background characteristics of the respondents such as place of residence (rural or urban), age, religion, education, occupation, family size and monthly income to assess TM utilization and associated factors in three adjacent districts of east Hararghe (Table 1).

Table 1: Socio- demographic characteristics of the respondents in the three adjacent districts of Eastern Hararghe, Ethiopia

No	Variables	Categories	District					
			Haramaya		Meta		Kombolcha	
			f	%	f	%	f	%
1	Place of Residence	Urban	69	16.35	64	15.16	56	12.65
		Rural	353	83.65	358	84.84	385	87.35
2	Age	20-30 years	58	13.86	57	13.52	55	12.97
		31-40 years	141	33.43	148	35.14	155	36.86
		41-50 years	123	29.14	115	27.25	109	25.94
		>50 years	100	23.59	102	24.17	102	24.23
3	Sex	Female headed	99	23.46	94	22.27	85	20.10
		Male headed	323	76.54	328	77.73	336	79.90
4	Educational status	Primary (1-8)	144	34.17	136	32.16	131	31.06
		Secondary (9-12)	92	21.85	83	19.73	76	18.09
		Illiterate	186	43.98	203	48.11	214	50.85
		Orthodox	68	16.15	73	17.34	44	10.02
5	Religion	Muslim	333	78.80	332	78.63	391	88.55
		Protestant	21	5.05	17	4.03	6	1.43
6	Occupation	Farmer	325	77.09	342	81.13	355	84.30
		Merchant	66	15.62	55	13.05	60	14.33
		Civil Servant	31	7.29	25	5.82	6	1.37
7	Family Size	3-5	93	22.05	94	22.27	89	21.14
		5-7	100	23.63	100	23.74	103	24.47
		7+	229	54.32	228	53.99	229	54.39
8	Monthly income (Birr)	<500	41	9.81	52	12.35	49	11.60
		500-800	123	29.13	136	32.19	131	31.06
		801-1000	85	20.17	76	18.11	83	19.80
		1001-2000	98	23.19	89	21.03	95	22.53
		>2000	75	17.70	69	16.32	63	15.02

One Birr = 0.027063599 US Dollar

Home grown TM remedies used in the districts

Among commonly used home grown TM remedies, the top four were *Allium sativum* 69.19%, 67.06% and 68.41%, *Capsicum spp* 67.06%, 68.48% and 69.36%, *Guizotia arborescens* 61.61%, 63.27% and 59.14% and *Ocimum lamiifolium* 59.01%, 61.14% and 60.10% in Haramaya, Meta and Kombolcha districts, respectively. The least favoured were *Mentha spicata* 36.49%, 35.07% and 37.53% and *Apium graveolens* 36.02%, 38.39% and 37.53%, in Haramaya, Meta and Kombolcha districts, respectively (Table 2).

Knowledge of respondents regarding modern health facilities in the districts

All respondents said that they have heard of modern health facilities in the districts and believed that using such modern health facilities may help them to prevent the transmission of diseases in the districts. The majority of the respondents obtained information about modern health facilities from family members, friends and the elderly people in the districts. Information from family members were 28.18%, 30.81% and 33.06% in Haramaya, Meta and Kombolcha districts, respectively.

Information from friends was 22.15%, 20.39% and 17.12% in Haramaya, Meta and Kombolcha districts, respectively. Knowledge from the elderly people contributed 17.26%, 20.38% and 21.13% in Haramaya, Meta and Kombolcha districts, respectively (Table 3).

Source of information on utilization of TM in the districts

All respondents in Haramaya, Meta and Kombolcha had heard about

the use of TM from different sources. However, the highest source of information was from family members, which would be 22.73%, 22.11% and 21.38%, in Haramaya, Meta and Kombolcha districts, respectively. The next highest information source came from religious leaders which contributed to 20.57%, 23.02% and 21.14% in Haramaya, Meta and Kombolcha districts, respectively. The least information source was from previously treated patients in the districts (Table 4).

Table 2: List and frequencies of home grown herbal remedies utilization by the respondents in the three adjacent districts of east Hararghe, Ethiopia

No	Old voucher	New voucher	Local name	Scientific name	Family name	Method of utilization	Districts					
							Haramaya		Meta		Kombolcha	
							f	%	f	%	f	%
1		HUHE	Hale	<i>Elletaria cardamomum</i>	Zingiberaceae	Powder used for tea	161	38.15	174	41.23	166	39.45
2		HUHE	Irdii	<i>Curcum long</i>	Zingiberaceae	Powder used as spice	187	44.25	191	45.28	204	48.36
3	003890	HUHE000009228	Lawuzi	<i>Arachis hypogea</i>	Papilionaceae (Fabaceae)	Used as oil source	216	51.12	226	53.45	207	49.23
4	006498	HUHE0000015330	Xuuxxoo	<i>Citrus limo</i>	Rutaceae	For Common cold, antimicrobes	194	46.03	200	47.35	189	44.78
5	024395	HUHE0000015326	Xuuxxoo	<i>Citrus aurantiifolia</i>	Rutaceae	For Common cold, antimicrobes	201	47.62	207	49.13	188	44.57
6	017567	HUHE0000016784	Qundoo	<i>Capsicum annum</i>	Solanaceae	For cooking and raw meat	192	45.51	202	47.82	219	52.13
7	005980	HUHE0000014720	Roomaana	<i>Punica granatum</i>	Punicaceae	For food and juice	191	45.19	182	43.12	195	46.23
8	AHU191		Qullubbii	<i>Allium sativum</i>	Amaryllidaceae	Spices in every food preparation	292	69.17	283	67.13	288	68.42
9	AHU198		Qarafaa	<i>Cinnamomum zelanicum</i>	Lauraceae	Spices for tea and cooking	181	42.87	190	45.1	183	43.53
10			Qurunfudii	<i>Syzygium aromaticum</i>	Myrtaceae	Spices for tea and cooking	165	39.17	169	40.15	161	38.21
11	014412	HUHE000008086	Asloombaa	<i>Ocimum basilicum</i>	Labiata (Lamiaceae)	Spices for cooking materials	203	48.16	191	45.36	207	49.11
12	020787	HUHE0000016812	Barbaree	<i>Capsicum Spp.</i>	Solanaceae	For cooking	283	67.14	289	68.43	292	69.33
13	019229	HUHE0000013706	Hawaajarabii	<i>Piper nigrum</i>	Piperaceae	Spices for cooking material	224	53.17	220	52.05	207	49.13
14	021573	HUHE0000016779	Qaccee	<i>Capsicum abyssinica</i>	Solanaceae	For cooking materials and eaten with vegetables and others	190	44.96	206	48.77	184	43.68
15	019544	HUHE0000015416	Xalatama	<i>Ruta chalepensis</i>	Rutaceae	Spices for coffee, cooking and medicine for external body	216	51.21	225	53.43	234	55.65
16	017984	HUHE0000013707	Timiz	<i>Piper species</i>	Piperaceae	Spices for cooking	182	43.21	174	41.15	180	42.83
17	006020	HUHE0000014841	Abasuuda gurraattii	<i>Nigella sativa</i>	Ranunculaceae	Spices for bread, tea and cooking	227	53.81	217	51.35	213	50.67
18	003527	HUHE000008855	Xoosinyoo	<i>Thymus vulgaris</i>	Labiata (Lamiaceae)	Spices for tea, cooking and drug for kidney	203	48.2	195	46.23	198	47.12
19	005552	HUHE0000013390	Salixa	<i>Sesumium indicum</i>	Pedaliaceae	For food and edible oil	229	54.18	237	56.07	227	53.82
20	001852	HUHE000004340	Nuugii	<i>Guizotia arborescens</i>	Asteraceae (composite)	Edible oil and food	260	61.52	267	63.19	249	59.17
21	016297	HUHE000006573	Shufuu	<i>Lepidium sativum</i>	Brassicaceae	By swallow its fruit for headache and stomach ache	195	46.23	200	47.39	193	45.84
22	018149	HUHE0000014244	Geeshee	<i>Rhamnus prinoides</i>	Rhamnaceae	Flavour local beer TELLA and KATICALLA	174	41.33	178	42.18	169	40.21

23		HUHE	Muka diimaa	<i>Cinnamomum verum</i>	Lauraceae	Treatment for Cold disease	173	41.43	182	43.12	186	44.29
24	019512	HUHE0000025894	Janjamila	<i>Zingiber officinale</i>	Zingiberaceae	Spices for cooking and tea	233	55.28	228	53.91	228	54.16
25	011391	HUHE0000006450	Sanaafica	<i>Brassica nigra</i>	Brassicaceae	Paste made to serve with food	182	43.15	190	45.13	180	42.68
26	019482	HUHE0000008054	Baala shaayii	<i>Mentha spicata</i>	Lamiaceae	Deep into tea	154	36.54	148	35.17	158	37.51
27	004567	HUHE0000012009	Abishii, Gulbata	<i>Trigonella foenum-graecum</i>	Fabaceae	Powder made as drink; added and cooked with food	235	55.63	242	57.43	239	56.73
28	023047	HUHE0000018688	Kammoona	<i>Anethum vulgare</i>	Umbelliferae (Apiaceae)	Drug for kidney	166	39.22	171	40.61	178	42.31
29	018624	HUHE0000008654	Osmooriin	<i>Rosmarinus officinalis</i>	Labiatae (Lamiaceae)	Spices for pepper and meat (tibs)	183	43.42	191	45.19	175	41.51
30	007629	HU0000019253	Kosorata	<i>Lippia adoensis</i>	Verbenaceae	Spices for pepper, and Milk and milk products	209	49.45	214	50.81	205	48.62
31			Korarimaa	<i>Amomum subulatum</i>	Zingiberaceae	Spices for cooking	237	56.11	245	58.17	233	55.43
32	019425	HUHE0000003778	Suufii	<i>Carthamus tinctorium</i>	Compositae (Asteraceae)	For cooking oil, and as a food	224	53.18	233	55.14	224	53.19
33	018241	HUHE0000019010	Shuukaara	<i>Coriandrum sativum</i>	Umbelliferae (Apiaceae)	Spices for cooking, leaf edible	160	37.92	166	39.31	169	40.18
34	001600	HUHE0000003789	Qonxar	<i>Linum usitatissimum</i>	Linaceae	For food and edible oil	174	41.12	178	42.27	175	41.64
35	005224	HUHE0000012793	Moringa	<i>Moringa stenopetala</i>	Moringaceae	Cook as vegetable	218	51.57	215	50.94	210	49.85
36	021426	HUHE0000008298	Dama kese	<i>Ocimum lamifolium</i>	Lamiaceae	For inhalation	249	59.11	258	61.13	253	60.19
37	061777	HUHE0000004081	Kebericho	<i>Echinops kebericho</i>	Asteraceae	Smoke for fumigation	208	49.22	214	50.63	205	48.68
38	005278	HUHE0000013124	Bahizafii	<i>Eucalyptus globulus</i>	Myrtaceae	Boil and inhale	184	43.56	175	41.38	186	44.11
39	022453	HUHE0000001287	Qunda barbare	<i>Shinus molle</i>	Anacardiaceae	Powder added to food	166	39.35	176	41.68	177	42.13
40	009546	HUHE0000024887	Hadhoftu	<i>Aloe megalacantha</i>	Aloaceae	Sap smeared on skin or taken by mouth for internal ailments	191	45.27	190	44.91	183	43.57
41	019804	HUHE0000018710	Kemzera	<i>Apium graveolens</i>	Umbelliferae	Shredded and cooked with food	152	36.14	162	38.39	158	37.59

Table 3: Sources of information about modern health facilities in three adjacent districts of east Hararghe, Ethiopia

No	Source	Districts					
		Haramaya		Meta		Kombolcha	
		f	%	f	%	f	%
1	Friends	93	22.15	86	20.39	72	17.12
2	Family	119	28.18	130	30.81	139	33.06
3	Elderly people	73	17.26	86	20.38	89	21.13
4	Religious leaders	47	11.13	43	10.19	64	15.11
5	Mass media	27	6.33	22	5.21	13	3.12
6	Health extension workers	40	9.48	38	9.00	35	8.31
7	Patients previously treated	23	5.47	17	4.02	9	2.15
	Total	422	100	422	100	421	100

Table 4: Sources of information about TM in the three adjacent districts of east Hararghe, Ethiopia

No	Source	Districts					
		Haramaya		Meta		Kombolcha	
		f	%	f	%	f	%
1	Friends	77	18.36	74	17.53	76	18.05
2	Family	96	22.73	93	22.11	90	21.38
3	Elderly people	81	19.23	68	16.12	64	15.20
4	Religious leaders	87	20.57	97	23.02	89	21.14
5	Traditional healers (THs)	64	15.16	74	17.43	85	20.19
6	Patients previously treated	17	3.95	16	3.79	17	4.04
	Total	422	100	422	100	421	100

Commonly occurring diseases and options to treat the disease in the districts

Table 5: Commonly occurring diseases, available treatments, stage of disease treatment and means of preventing diseases in districts of east Hararghe, Ethiopia

No	Variables	Categories	Districts					
			Haramaya		Meta		Kombolcha	
			f	%	f	%	f	%
1	Are there commonly occurring diseases in the districts?	Yes	302	71.54	288	68.35	274	65.19
		No	120	28.46	134	31.65	147	34.81
2	What is the common type of diseases in the districts?	Fever	229	54.25	233	55.12	224	53.24
		Common cold	195	46.27	184	43.62	177	41.98
		Diarrhoea	254	60.17	248	58.71	240	57.00
		Malaria	220	52.14	224	53.18	193	45.73
3	What are the available treatment options?	Traditional Healers (THs)	259	61.42	245	58.13	256	60.75
		Health centre	238	56.31	216	51.09	221	48.56
		Treatment at home	220	52.15	224	53.14	282	51.89
4	At what stage of illness the health professionals needed?	Early stage	30	7.18	26	6.14	17	4.09
		At serious stage	250	59.27	259	61.33	269	63.82
		If all other methods failed	98	23.19	108	25.49	135	32.08
5	What is the means of preventing disease?	Environmental and personal resistance	126	29.86	112	26.57	118	27.99
		Vaccination	136	32.15	127	30.16	109	25.94
		Use of TM	207	49.13	199	47.15	194	46.08

TM = Traditional medicine

According to the prevalence of the disease in the districts, diarrhea was, 60.17%, 58.71% and 57%, fever was 54.25%, 55.12% and 53.24%, malaria was 52.14%, 53.18% and 45.73% and common cold 46.27%, 43.62% and 41.98% in Haramaya, Meta and Kombolcha, respectively.

The majority of the respondents supported the use of THs, which was 61.42%, 58.13% and 60.75% in Haramaya, Meta and Kombolcha districts, respectively. The use of TH was supported by 49.13%, 47.15% and 46.08% in Haramaya, Meta and Kombolcha districts, respectively.

3.7. Factors affecting the use of modern health facilities in the districts

Table 6: Factors affecting the use of modern health facilities in the districts of east Hararghe, Ethiopia

No	Source	Districts					
		Haramaya		Meta		Kombolcha	
		f	%	f	%	f	%
1	Distance from health station	44	10.31	50	11.83	59	14.01
2	Family problems	104	24.69	106	25.11	111	26.37
3	Lack of health workers	66	15.72	74	17.51	80	19.00
4	Availability of traditional healers (THs)	208	49.28	192	45.55	171	40.62
Total		422	100	422	100	421	100

There were many factors affecting respondents' use of modern health facilities. Distance from the health station was supported by 44(10.31%), 50(11.83%) and 59(14.01%), family problems 104(24.69%), 106(25.11%) and 111(26.37%), lack of health workers 66(15.72%),

74(17.51%) and 80(19.00%) and availability of THs 208(49.28%), 192(45.55%) and 171(40.62%) respondents in Haramaya, Meta and Kombolcha districts, respectively (Table 6).

Accessibility of health centres, options for treating illnesses, and dissemination of health information for the prevention of diseases in the districts

Table 7: Knowledge and prevention of common illnesses in the districts of east Hararghe, Ethiopia

No	Variables	Categories	Districts					
			Haramaya		Meta		Kombolcha	
			f	%	f	%	f	%
1	Do health centres accessible in the districts?	Yes	162	38.46	150	35.43	131	31.06
		No	260	61.54	272	64.57	290	68.94
2	What are the options for treating illnesses in the districts?	Hospital	98	23	90	21.23	81	19.11
		Traditional healer (THs)	237	56.11	235	55.65	228	54.27
		Religion leaders or elders	87	20.7	98	23.12	112	26.62
3	Do health centers useful for prevention of diseases?	Agree	216	51.31	208	49.35	198	47.10
		Strongly Agree	95	22.43	89	21.06	76	18.09
		Neutral	111	26.26	125	29.59	147	34.81
4	Does dissemination of Health information necessary for prevention of diseases?	Agree	185	43.81	167	39.51	132	31.40
		Strongly Agree	108	25.54	115	27.34	125	29.69
		Neutral	129	30.65	140	33.15	164	38.91

The study also tried to assess whether the use of health facilities were accessible for common illness in the districts. Health centres not accessible were supported by 260(61.54%), 272(64.57%) and 290(68.94%), and THs clinics more acceptable options were supported by 237(56.11%), 235(55.65%) and 228(54.27%) respondents in Haramaya, Meta and Kombolcha districts, respectively. Health centres

useful for disease prevention was supported (agree-strongly agree) by 311(73.74%), 297(70.41%) and 274(65.19%) and dissemination of health information for prevention of common diseases was supported (agree-strongly agree) by 293(69.35%), 282(66.85%) and 257(61.09%), in Haramaya, Meta and Kombolcha districts, respectively (Table 7).

Table 8: Traditional healers’ (THs) knowledge, parts of herbs and dosage forms used for the treatment of common illnesses in the districts of east Hararghe, Ethiopia

No	Variables	Categories	Districts					
			Haramaya		Meta		Kombolcha	
			f	%	f	%	f	%
1	Whose responsibility is being Traditional healer (TH) in the family?	Mother/father	144	34.13	149	35.24	147	34.81
		Grandmother /father	278	65.87	273	64.76	274	65.19
2	Do THs have knowledge on common diseases?	Yes	225	53.23	229	54.34	224	53.24
		No	197	46.77	193	45.66	197	46.76
3	Which Part of plant frequently used by THs for treatments of common illness?	Herbs	208	49.25	205	48.51	198	47.10
		Roots	162	38.33	166	39.45	163	38.57
		Stem	54	12.87	51	12.04	60	14.33
4	Which dosage forms is being used by THs	Liquids	169	40.16	176	41.71	161	38.23
		Powder	120	28.46	119	28.13	125	29.69
		Paste	89	21.06	82	19.47	92	21.84
		Other forms	44	10.32	45	10.69	43	10.24

The responsibility and decision making for the treatment of the sick person in the family rested on grandmothers/fathers. In Haramaya, Meta and Kombolcha, 278(65.87%), 273(64.76%) and 274(65.19%), respectively, of the respondents said that it was the responsibility of grandmothers/fathers. Regarding the knowledge of THs on common diseases, 225(53.23%), 229(54.34%), and 224(53.24%) of respondents, respectively, in Haramaya, Meta and Kombolcha, said that they had

confidence on the knowledge of THs. On the use of plant parts, 208(49.25%), 205(48.51%), and 198(47.10%), respondents respectively, in Haramaya, Meta and Kombolcha said that herbs are frequently used forms of plant parts. On dosage forms, 169(40.16%), 176(41.71%) and 161(38.23%) respondents, respectively, in Haramaya, Meta and Kombolcha liked to use liquid forms of the dosages (Table 8).

DISCUSSION

The TM utilizations in the three districts were 63.75%, 63.75% and 63.79% in Haramaya, Meta and Kombolcha, respectively. From the total of 1984 respondents in the three districts 1265 (63.76%) said that they preferred to use TM as primary health care whereas 719 (36.24%) said that they preferred to use other sources of health care system [12].

The majority of the respondents were rural residents, 353(83.65%), 358(84.84%) and 385(87.35%) in Haramaya, Meta and Kombolcha, respectively. As far as age is concerned, there were marked differences in the TM utilization when respondents were grouped under thirty and above thirty. In Haramaya, Meta and Kombolcha there were 364(86.16%), 365(86.56%) and 366(87.03%), respectively, above the age of 30 utilized TM. Family heading was one of the issues. In Haramaya, Meta and Kombolcha, 323(76.54%), 328(77.73%) and 336(79.9%), respectively, were headed by males. The majority of the respondents were illiterate 43.98%, 48.11% and 50.85%, Muslims 78.80%, 78.63% and 88.55%, farmers 77.09%, 81.13% and 84.30%, had family size more than 7 54.32%, 53.99% and 54.39% and monthly income of less than 1000 Birr 59.11%, 62.65% and 62.46%, respectively, in Haramaya, Meta and Kombolcha districts [43].

The study showed that large family sizes seen in the districts were one of the factors affecting the status of TM utilization. The socio-demographic study of the respondents showed that 229(54.32%), 228(53.99%) and 229(54.39%) in Haramaya, Meta and Kombolcha districts, respectively, had 7 or more family sizes. The effects of a large family size with overcrowding and inadequate spacing have been implicated as risk factors for transmission of several contagious diseases. The result also showed that sick person lived within a household with low monthly income got higher utilization of TM, because of inaccessibility of health facilities and inaffordability of the western medicines. The monthly income of the majority of respondents (more than 60% in the three adjacent districts) was below 1000 Birr. With this income the most likely chance for them was to use TM which was cheaper and affordable in the districts [12].

Home grown TM remedies were used either as food or TM in the districts. In study made in Harar town, eastern Ethiopia, Bussa and Gameda (2018) found that *Allium sativum* and *Ocimum lamiifolium* were highly used and *Apium graveolens* was the least favoured home grown TM remedies [44, 45].

Information about modern health facilities were obtained primarily from family members and followed by friends. But the practices of modern health seeking behaviours in the districts were extremely low. These might be due to higher utilization of TM, negligence and influence of some other factors affecting the seeking behaviour of the respondents. Even if they got information related to modern health institutions, the respondents said that they were not properly used modern health facilities [46].

The majority of the respondents, 302(71.54%), 288(68.35%) and 274(65.19%), in Haramaya, Meta and Kombolcha, respectively, said that there were commonly occurring diseases in the areas. The most common diseases according to their prevalence were Diarrhea, fever, Malaria and common colds. Most of the respondents, 259(61.42%), 245(58.13%) and 256(60.75%) in Haramaya, Meta and Kombolcha,

respectively, favored the THs treatments of the illnesses. Diarrhoea could be due to lack of Hygiene and cleanness. Fever may be a symptom of malaria which could be transmitted by mosquitoes in the areas. The morbidity pattern in this study was similar to what had been reported in other local studies in the country [47].

Only 30(7.18%), 26(6.14%) and 17(4.09) respondents in Haramaya, Meta and Kombolcha, respectively, sought help at the early stage of the sickness and the majority needed help at the serious stage of the disease progression. In a few cases, having had a previous episode of illnesses influenced respondents' actions and previous episodes of an illness were determined from their recall information. The respondent also said that environmental and personal sensations were among the means of preventing diseases and most of the time treatments were conducted at homes [48, 49].

Among factors affected the respondents' practises not to take sick person to health facility were availability of THs in the vicinity and the possibility of THs able to treat the sick at their homes. The next factor hindered the respondents not to take the sick to the health stations was family problems. Availability of the health workers was another factor hindered the respondents not to take the sick to the health stations. The last factor played role was distance of the health stations. In Haramaya, Meta and Kombolcha districts 10.31%, 11.83% and 13.99% respondents, respectively, said that distance of the health stations played role in preventing them not use the health stations [50].

The study found that 259(61.42%), 245(58.13%) and 256(60.75%) respondents in Haramaya, Meta and Kombolcha districts, respectively gave priority to visit THs clinics than modern health facilities. The respondents agreed that knowledge about the use of health station for prevention of disease was important. However, because health stations are inaccessible and the costs attached with them to use western medicine is not affordable, they less likely use the health stations. THs had more knowledge about TM and respondents were more comfortable to visit THs clinics than western health facilities [51, 52].

Consultation of grandfather/mother and head of household was important for the treatment of illnesses. Head of households are controlling the economy and more responsibilities are given to them in the communities. The role played by peers and neighbors by no means considered small in sharing information about TM and health facilities in the districts.

CONCLUSION

Socio economic and demographic variables had significant influences on the utilization of TM. The risk of common disease is increased when the monthly income is lower than 1000 Ethiopian birr. Large family size is responsible for increased utilization of TM and increased risk of disease transmissions. Family members, religious leader and elderly people could be able to influence the utilization of TM and modern health facilities. THs are important in TM utilizations and respondents depend on TM for their primary health care.

Acknowledgement

I am very grateful to Mr. Anteneh Belayneh, Mr. Lenjissa Diriba and Mr. Mekonnen Kenehi for their relentless efforts in Taxonomic work, data

supervision and analysis. I am also grateful to all staff members of the Central Laboratory. Special thank goes to Mrs. Woynitu Getachew for typing the manuscript, District offices for their help and Haramaya University for partially funding this project.

Conflict of Interest

None declared.

Financial support and sponsorship

Nil.

REFERENCES

1. WHO. Traditional medicine promotion efforts, *World Health Organization Tech monitor* Geneva, Switzerland, 2006.
2. Kassaye KD, Amberbir A, Getachew B, Mussema Y. A historical overview of traditional medicine practices and policy in Ethiopia, *Ethiop.J.Health Dev.* 2006; 20(2):127-134
3. Ahmed M, Breme JJ, Magzoub MME, Nouri AMH. Characteristics of visitors to traditional healers in central Sudan, *Eastern Mediterranean Health Journal* 1999; 5(1):79-85.
4. Samy RP, Ignacimuthu S. Antibacterial activity of some folklore medicinal plants used by tribals in Western Ghats of India, *J Ethnopharmacology*, 2000; 69 (1):63- 71.
5. Verpoorte R, Choi YH, Kim HK. Ethnopharmacology and systems biology: A perfect holistic match, *Journal of Ethnopharmacology*, 2005; 100:53-56.
6. Pieroni A, Quave CL. Traditional pharmacopoeias and medicines among Albanians and Italians in southern Italy: A comparison, *Journal of Ethnopharmacology*, 2005; 101: 258-270.
7. Giday M, Teklehaymanot T, Animut A, Mekonnen Y. Medicinal plants of the Shinasha, Agew-awi and Amhara peoples in northwest Ethiopia, *Journal of Ethnopharmacology*, 2007; 110:516-525.
8. Vitalini S, Iriti M, Puricelli C, Ciuchi D, Segale A, Fico G. Traditional knowledge on medicinal and food plants used in Val San Giacomo (Sondrio, Italy) - An alpine ethnobotanical study. *Journal of Ethnopharmacology*, 2013; 145(2):517-529.
9. WHO, Traditional medicine strategy 2014-2023, World Health Organization, Geneva, Switzerland, 2013.
10. Ahmed M, Zafar M, Shahzadi N, Yaseen G, Murphey TM, Sultana S. Ethnobotanical importance of medicinal plants traded in Herbal markets of Rawalpindi- Pakistan. *Journal of Herbal Medicine*, 2018;11: 78-89.
11. Lemonnier L, Zhou GB, Prasher B, Mitali M, Chen Z, Brahmacari SK, Nobel D, Autray C, Sagner M. Traditional Knowledge-based Medicine: A Review of History, Principles, and Relevance in the Present Context of P4 Systems Medicine. *Progress in preventive medicine*, 2017; 2(7):e0011.
12. Bussa NF, Gameda AS. Assessment of Traditional Medicine Utilization in Harar Town, Eastern Ethiopia, *Journal of Ayurvedic and Herbal medicine*, 2018; 4(4):158-164.
13. WHO. Traditional medicine: growing needs and potential. World Health Organization, 2002, <https://apps.who.int/iris/handle/10665/67294>.
14. Bruschi P, Sugni M, Moretti A, Adele M, Signorini MA, Fico G. Children's versus adult's knowledge of medicinal plants: an ethnobotanical study in Tremezzina (Como, Lombardy, Italy), *Brazilian Journal of Pharamcognosy*, 2019; 29: 644-655.
15. Yuan H, Ma Q, Ye L, Piao G. The traditional medicine and modern medicine from natural products, a review, *Molecule*, 2016; 21(559):1-18.
16. Sisay B, Tefera T, Wakgari M, Ayalew G, Mendesil E. The efficacy of selected synthetic insecticides and botanicals against fall armyworm, *Spodoptera frugiperda* in maize, *Insects*, 2019; 10:45-58.
17. Bussa NF, Belayneh A. Traditional medicinal plants used to treat cancer, tumors and inflammatory ailments in Harari Region, Eastern Ethiopia, *South African Journal of Botany*, 2019; 122:360-368.
18. WHO. WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems, Geneva, Switzerland: World Health Organization, 2004.
19. Ekor M. Review Article: The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety, *Frontiers in Pharmacology*, 2014; 4(article 177):1-10.
20. Daly M, Tai CJ, Deng CY, Chien LY. Factors associated with utilization of traditional Chinese medicine by white collar foreign workers living in Taiwan. *BMC Health Services Research*, 2009; 9(1):10.
21. Ondicho JM, Ochora J, Matu E, Mutai J. Factors associated with use of herbal medicine among the residents of Gucha sub-county, *The African Journal of Health Sciences*. 2015;28(3):275-293.
22. Belayneh A, Bussa NF, Demissew S, Bisrat D. Acute oral toxicity test from leaf exudates of 17 aloe species from east and south of the great rift valley in Ethiopia, *Advances in Traditional Medicine*, 2020, 20(3):1-12.
23. Tabuti JRS, Dhillion SS, Lye KA. Traditional medicine in Bulamogi County, Uganda: its practitioners, users and viability. *Journal of Ethnopharmacology*, 85:119-129.
24. Mallik BK, Panda T, Padhy RN. Traditional herbal practices by the ethnic people of Kalahandi district of Odisha, India, *Asian Pacific Journal of Tropical Biomedicine* 2012; S988-94.
25. Heinrich M, Gibbons S. A review article: Ethnopharmacology in drug discovery: an analysis of its role and potential contribution, *Journal of Pharmacy and Pharmacology*, 2001; 53(4):425-432.
26. Pendry B, Busia K, Bell C. Phytochemical Evaluation of Selected Antioxidant- Containing Medicinal Plants for Use in the Preparation of a Herbal Formula - A Preliminary Study, *Chemistry & Biodiversity*, 2005; 2(7):917-922.
27. Leonti M. The future is written: impact of scripts on the cognition, selection, knowledge and transmission of medicinal plant use and its implications for ethnobotany and Ethnopharmacology. *Journal of Ethnopharmacology*, 2011; 134(3):542-555.
28. Tesfaye S. Ethnobotanical and ethnopharmaceutical studies on medicinal plants of Chifra district, Afar region, north eastern Ethiopia, Msc thesis Addis Ababa University, Ethiopia, 2004.
29. Chama E. The study on medicinal plants and their uses to treat human ailments in Damot-Gale district, Wolaita Zone, South Ethiopia, *International Journal of African and Asian Studies*, 2017;30:88-96.
30. Desta Y, Debella A, Assefa G. Traditional Medicine: Global and National perspectives. In: Proceedings of the workshop on Development and utilization of Herbal Remedies in Ethiopia, Dawit Abebe (Ed), Ethiopian Health and Nutrition Research Institute, Addis Ababa, 1996; 1-19.
31. Messeret S. The role of health professionals in the development of traditional medicine in Ethiopia. In: Proceedings of the workshop on Development and utilization of Herbal Remedies in Ethiopia, Dawit Abebe (Ed), Ethiopian Health and Nutrition Research Institute, Addis Ababa, pp. 15-18. 1999.
32. Yirga G. Assessment of indigenous knowledge of medicinal plants in Central zone of Tigray, Northern Ethiopia, *African Journal of Plant Science*, 2010a; 4(1):006-011.
33. Yirga G. Assessment of traditional medicinal plants in Endrta district, south-eastern Tigray, northern Ethiopia, *African Journal of Plant Science*, 2010b; 4(7):255-260.
34. Fewtrell L, Kaufmann RB, Kay D, Enanoria W, Haller L, Colford JM. Water sanitation and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis. *Lancet Infect Dis*. 2005; 5(1):42-52.
35. WHO. National policy on traditional medicine and regulation of herbal medicines: Report of a WHO global survey, Switzerland, 2005.
36. Bussa NF, Chameda AS, Adugna T. Nutritional and sensory evaluations of citrus drinks supplemented with khat (*Catha edulis*) powder: the case of khat grown in Hararghe, eastern Ethiopia, *Global Scientific Journal*, 2019; 7(2):964-980.
37. Kibebew F. The status of availability of data of oral and written knowledge and traditional health care in Ethiopia, In: Zewdu M and Demissie A, Eds.,

- Conservation and sustainable use of medicinal plants in Ethiopia, Institute of Biodiversity Conservation and Research, Addis Ababa, 2001;107-19.
38. Gedif T, Hahn HJ. The use of medicinal plants in self-care in rural central Ethiopia, *Journal of Ethnopharmacology* 2003; 87(2-3): 155-161.
 39. Muthuswamy R, Tadesse H, Tujuba R. A cross-sectional study on the perceptions and practices of modern and traditional health practitioners about traditional medicine in Dembia district, north western Ethiopia, *Pharmacogn Mag.* 2010;6(21):19–25
 40. Samuel MW, Leul LA, Belayneh WT, Laychiluh BM. Knowledge, attitude, and utilization of traditional medicine among the communities of Merawi town, northwest Ethiopia: A cross-sectional study. *Evidence-Based Complementary and Alternative Medicine*, 2015; 2015:1-7.
 41. Central Statistics Authority (CSA). Population and housing census of Ethiopia, Addis Ababa, Ethiopia, 2008.
 42. Krejcie RV, Morgan DW. Determining Sample Size for Research Activities, *Educational and Psychological Measurement*, 1970; 30:607-610.
 43. Fakeye TO, Adisa R, Musa IE. Attitude and use of herbal medicines among pregnant women in Nigeria, *BMC Complementary and Alternative Medicine* 2009; 9:53.
 44. Arye EB, Karkabi K, Karkabi S, Keshet Y, Haddad M, Frenkel M. Attitudes of Arab and Jewish patients toward integration of complementary medicine in primary care clinics in Israel: A cross-cultural study, *Medicine*, 2009; 68:177-182.
 45. Chao MT, Wade CM. Socioeconomic factors and women's use of complementary and alternative medicine in four racial/ethnic groups, *Ethnicity and disease*, 2008; 18:65- 71.
 46. Mussema Y. A historical overview of traditional medicine practices and policy in Ethiopia, *Ethiop J Health Dev*, 2006; 20(2):127-134.
 47. Teshome-Bahire W. Initiation of Healers in Ethiopia, a Case Study. *Coll Antropol* 2000; 24(2):555-563.
 48. Aye-Tham JH, Kukarni W, Tha SJ. Antidiarrheal efficacy of some Burmese indigenous drug formulations in experimental diarrhea models, *J Crude Drug Res*, 1989; 27: 195-200.
 49. Abu Mohammed TI, Muhammad EU, Asharf UC, Mominur R, Razibul H, Atiar R. *In vivo* antidiarrheal and cytotoxic potential of different fractions of *Pandanus Foetidus* leaves. *Am J Biomed Sci* 2013; 5 (Suppl 3):208-216.
 50. Franca CS, Menezes FS, Costa LCB, Niculau ES, Alves PB, Pinto JE, Marcal RM. Analgesic and antidiarrheal properties of *Ocimum selloi* essential oil in mice. *Fitoterapia* 2008; 79 (Suppl 7–8):569-573.
 51. Gutiérrez SP, Mendoz DZ, Munive AH, Martínez AM, González CP, Mendoza ES. Antidiarrheal activity of 19-deoxycetexone isolated from *Salvia ballotiflora* Benth in mice and rats. *Molecules* 2013; 18:8895-8905.
 52. Reniers G, Tesfai R. Health services utilization during terminal illness in Addis Ababa. *Ethiopia Health Policy and Planning*, 2009; 24:312-319.

HOW TO CITE THIS ARTICLE

Bussa NF. Comparative Assessment of Traditional Medicine Utilization in Three Adjacent Districts of East Hararghe, Ethiopia. *J Ayu Herb Med* 2021;7(3):165-175. DOI: 10.31254/jahm.2021.7301

Creative Commons (CC) License-

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license. This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. (<http://creativecommons.org/licenses/by/4.0/>).