Some Ethnomedicinal plants used in the treatment of male and female disorders by traditional practitioners in Meiktila, Mandalay Region

Yu Yu Tin[1], Khin San Win[2], Thet Thet Wai[3]

Abstract

The essential role of medicinal plants used in the treatment of male and female disorders by traditional practitioners in Meiktila, Mandalay Region was carried out. Medicinal uses of these plants were studied by interviewing to 15 traditional practitioners. Semistructure interview method as described by Creswell (2004) was applied. Use value (UV) was calculated by Phillips (1996) and an index of performance (*Ip*) was calculated by Batti (2004). The presented species were described with traditional medicinal uses and parts used. Twenty one medicinal plants are being practically used for treatment of male and female disorders ailments. *Eclipta prostrata* L. showed the highest use value (UV=0.33). In comparisons of the usages, an index of performance (*Ip*) was calculated for each plant species from the number of citations of treatment actually recorded. 15 species showed the average performance (*Ip* = 1). Therefore, medicinal plants play essential role in treatment of male and female disorders by traditional practitioners.

Key words: Medicinal plants, Traditional practitioners, (UV), (*Ip*).

Introduction

Medicinal plants and plant-derived medicine are widely used in traditional culture all over the world and also becoming increasingly popular in modern society as natural alternatives to synthetic chemicals. As more and more natural remedies are being commercialized, there is a need for a user-friendly but scientifically accurate reference guide to the plants and their production.

Medicinal plants used for treating diseases are probably the oldest existing method that humanity has used to try to cope with illness. For this reason, medicinal plants have been used therapeutically all around the world, being an important aspect of various traditional medicine systems. From Ayurveda to Chinese traditional medicine, from Unani to Tibetan Medicine, from Amazonian to Africa Medicine, all systems of traditional medicine, although based on different theoretical and cultural models, integrate phytotherapy into their doctrine. Therefore, medicinal plants play a vital role in providing health care to humans since the dawn of civilization.

During the past few decades, phytotherapy was increasingly used even in industrialized countries. In low- and middle-income countries, phytotherapy never stopped being important. In high-income countries, the widespread use of phytotherapy declined at the end of the first part of the twentieth century, due to the development and production of synthetic medicines. (WHO, 2007).

Herbal medicines constitute the main component of traditional medicine, which have been used since thousands of years. Long tradition of use of many herbal remedies and experiences passed on from generation to generation has brought about reliance by the people on herbal medicines. At present, the use of herbal medicinal plants for health products is increasing worldwide (WHO, 2010). Nowadays, traditional or alternative medicine plays an important role internationally. In place of chemicals, natural raw materials are increasingly being used in medical treatment and pharmaceutical industries.

[1]Dr. Professor, Department of Botany, Banmaw University
[2]Dr. Associate Professor, Department of Botany, Mandalar Degree College
[3]Daw. Lecturer, Department of Botany, Hpa-an University

A rich heritage of traditional medical knowledge and the use of plants as medicines still exist in Myanmar which have been inherited from earlier generations. However, many areas in Myanmar are now experiencing rapid changes. Traditional knowledge as well as plants that the traditional healers rely upon are being lost at an alarming rate. Therefore, it is important that immediate steps be taken to protect the important source of traditional knowledge on the art of healing performed by the traditional medicine practitioners in Myanmar, their success stories, together with an inventory of some medicinal plants, and traditional knowledge pertaining to their use, including preparation and administration. Traditional medicines are an integral part of people's culture and are used extensively by the peoples in developing countries for their primary health care.

Traditionally, herbalists' knowledge of medicinal plants and their uses have been transferred orally from generation to generation. Therefore, it is necessary to record the local herbalist's knowledge plants in traditional medicine.

In the present study, some medicinal plants growing in Meiktila were collected and studied. In the study area, there was so far no document concerning traditional uses of medicinal plants. Therefore, this area was chosen to study and traditional uses of medicinal plants were carried out, with the following aims and objectives: to identify the medicinal plants grown in Meiktila; to inform the traditional medicine and uses of medicinal plants for the common diseases in Myanmar; and to help people take care of their health problems by using medicinal plants.

Materials and Methods

Plants growing in Meiktila area were collected and identified by using Flora of Ceylon. Medicinal uses were obtained by interviewing 15 traditional practitioners. Semi-structure interview method as described by Creswell (2004) was applied. In comparison with the medicinal uses of species, the use value (UV) was calculated by Phillips (1996) and an index of performance (*Ip*) was calculated by Batti (2004).

(a) In Phillips (1996) method,

$$UV = \frac{\Sigma ui}{n},$$

UV = use value of a species,
ui = the number of uses mentioned by each informant for a given species,
n = the total number of informants

(b) To illustrate performance index mentioned by Betti (2004),

C_1 = number of citations of specific species for specific ailment
C_2 = number of citations of specific species for all ailments
C_3 = total number of citations for specific ailment
C_4 = total number of citations for all ailments
$P_1 = C_1/C_2$, $P_2 = C_3/C_4$, $D = P_1 - P_2$

The difference (D) between the two proportions is then used to define a performance index (*Ip*), which ranges from 0 to 3 according to the following arbitrary scale.

If P1 - P2 < 0, *Ip* = 0 : the plant concerned were rejected, not significant;
If 0 < P1 - P2 ≤ ⅓, *Ip* = 1: average performance

If ⅓ < P1 - P2 ≤ ⅔, *Ip* = 2: high performance
If P1 - P2 > ⅔, *Ip* = 3: very high performance

(c) Discussion Record
Name - U Moe Win
Address - Swan Htet Traditional Clinic, Pauk Chaung Quarter, Meiktila (Tasa-05554)

No.	Name of species	Disease treated	Parts used	Procedure	Side effects
1.	*Aloe vera* (L.) Burm.f	Female disorders	Leaves	Administer orally as leaves essence.	None
15.					

Results

21 plants belonging to 20 genera of 15 families found in the Meiktila area emphasizing on traditional medicinal uses and part used were presented in (Table 1).

Table 1. Medicinal uses and part used of plants found in Meiktila

No.	Scientific Name	Myanmar Name	Part Used	Traditional medicinal uses
1.	*Achyranthes aspera* L.	Kyet mauk sue byan	W	The paste made with water can be strained and taken once in the morning and once at night to cure excessive menstruation.
2.	*Aloe vera* (L.) Burm.f	Sha zaung let pat	L	The essence of Sha zaung let pat leaves is mixed with pyin sa nga pa of pauk plant and salt. Then the mixture is eaten as medicine to purify menses blood. Twenty five kyat thas of the essence of Sha zaung let pat, twenty five kyat thas of jaggery, five kyat thas of essence of ripe Tamarind fruit, eight pe's of Sa mon myo nga pa, five kyat thas of kyeik hman leaves, and five kyat thas of onions are mixed and cooked. The curry can be eaten to cure menstrual disorder.
3.	*Amaranthus spinosus* L.	Hin nu nwe su bauk	W, L	Pyin sa nga pa or the leaves of Hin nu nwe su bauk can be pounded and boiled water. The liquid can be taken as oral medicine to relieve pain and strengthen uterus.
4.	*Aristolochia indica* L.	Eai thaya muli	R, L	The roots and leaves are used to treat irregular menstruation.

Table 1. continued

No.	Scientific Name	Myanmar Name	Part Used	Traditional medicinal uses
5.	*Clausena excavata* Burm.	Pyin taw thein	L	The leaves of Pyin daw thein can be made into salad or soup, which can be taken as medicine to cure menstrual disorder.
6.	*Cleroderdron siphonanthus* R.Br.	Nga yan pa du	R	The root of Nga yant padu is boiled in water till one third of the water is left. Then the liquid can be drunk as oral medicine to heal menstrual disorder.
7.	*Eclipta prostrata* L.	Kyeik hman	L	A handful of Kyeik hman leaves is mixed with two kyat thas of jaggery and two or three cups of water. The mixture is boiled till one third of the water is left. The liquid obtained in this way can be eaten two times a day to relieve amenorrhoea. Kyeik hman leaves are mixed with two or three bulbs of garlic. The mixture is boiled in water till one third of the water is left. Then a tea cup of liquid can be one or two times a day to cure amenorrhoea.
8.	*Justicia adhatoda* L.	Mu ya gyi	L	Mu ya gyi leaves are boiled in water till one third of the water is left. A tea cup of the liquid can be taken two or three times a day to cure hypermenorrhea. Three or four leaves of Mu ya gyi are mixed with jaggery and boiled in water till half of the water is left. The liquid obtained in this way can be drunk to cure hypermenorrhea.
9.	*Mesua ferrea* L.	Kan kaw	St	Kan kaw stamen is ground into powder, a Tamarind seed of which can be taken with as medicine to cure hypermenorrhea.

Table 1. continued

No.	Scientific Name	Myanmar Name	Part Used	Traditional medicinal uses
10.	*Millingtonia hortensis* L.	Egayit	R, L	The root of Egayit is ground with rice rinsing water into liquid, which can be applied to cure leukorrhea. The root can be mixed with jaggery and boiled in water. The liquid can be drunk to cure leukorrhea. The leaves of Egayit can be made into salad or fried and eaten with fish sauce to cure menstrual disorder. Ten kyat thas (ticals) of Egayit leaves are ground, mixed with jaggery and boiled in water. A spoon of the liquid can be taken as medicine two time a day to cure leukorrhea.
11.	*Mimosa pudica* L.	Htika yon	W	A tea cup of Hti ka yon liquid mixed with sugar and yoghurt can be taken regularly to cure gleet.
12.	*Mirabilis jalapa* L.	Myae zu	R	Myae zu roots is ground into powder . Then the powder, mixed with sugar, can be eaten as medicine to cure leukorrhea.
13.	*Morinda citrifolia* L.	Ye yo	Fr	A Ye yo fruit mixed with three lumps of jaggery and roasted salt can be eaten to cure menorrhea. A handful Ye yo roots is boiled in water till one third of the water is left. The liquid can be drunk to cure hypermanorrhea.
14.	*Naringi crenulata* (Roxb.) Nicolson.	Tha nat kha	B	The nat kha is ground with water and gang gaw wut hsan into liquid which is mixed with sugar and taken as oral medicine to cure leukcorrhea.
15.	*Ocimum canum* Schum.	Pin sein	S	The seeds of Pin sein are mixed with jaggery and honey in equal weight. A spoon of the mixture can be taken as medicine two times a day to cure oligospermia.

Table 1. continued

No.	Scientific Name	Myanmar Name	Part Used	Traditional medicinal uses
16.	*Phyllanthus amarus* Schum.	Myae zee phyu	W	Pyin sa nga pa of Myay zee phyu are boiled in water till one third of water is left. Then the liquid mixed with a tamarind seed of sugar or jaggery can be used as traditional medicine. If taken with indigenous medicine no. 21, 61, the medicine can cure gonorrhea.
17.	*Plumeria rubra* L.	Tayoke saga ni	B, L	Bark and leaves of Tayoke saga ni is used for gonorrhea.
18.	*Senna siamea* (Lam.) Irwin & Barneby	Mae zali	L	The liquid of Mae zali leaves can be applied to cure menses.
19.	*Senna surattensis* (Burm.f) subsp: *glauca* (Lam.) K &S	Pyi pan nyo	L	The liquid of Pyi pan nyo leaves is mixed with milk and sugar. Then it can be taken as medicine, which can cure gonorrhea.
20.	*Tamarindus indica* L.	Ma gyi	S	Ma gyi seeds are mixed thick with milk and taken as medicine to cure leucorrhea.
21.	*Zizyphus mauritiana* Lam.	Zee	S	The seeds of Zee are mixed with a kyat thas of Kya zu fruit, Thit seik fruit, Zee phyu fruit, 10 kyat thas of sugar, 10 kyat thas of butter, and 20 kyat thas of honey. Then the mixture is cooked into medicine. The medicine can be taken twice a day to cure leukorrhea.

L=leaves, B=barks, Fr=fruits, S=seeds, R=roots, W=the whole plants, St=stamen.

Table 2. *Ip* and UV Ranks on uses of 21 medicinal plants by Traditional Practitioners citations

No.	Scientific Name	Male disorders	Female disorders	Total number of citations	Male disorders (*Ip*)	Female disorders (*Ip*)	UV Ranking
1.	*Achyranthes aspera* L.	-	1	1	0	1	3rd
2.	*Aloe vera* (L.) Burm.f	-	4	4	0	1	3rd
3.	*Amaranthus spinosus* L.	-	1	1	0	1	3rd
4.	*Aristolochia indica* L.	-	1	1	0	1	3rd
5.	*Clausena excavata* Burm.	-	2	2	0	1	3rd
6.	*Cleroderdron siphonanthus* R.Br.	-	1	1	0	1	3rd
7.	*Eclipta prostrata* L.	-	5	5	0	1	3rd
8.	*Justicia adhatoda* L.	-	2	2	0	1	3rd
9.	*Mesua ferrea* L.	-	1	1	0	1	3rd
10.	*Millingtonia hortensis* L.	-	1	1	0	1	3rd
11.	*Mimosa pudica* L.	2	-	2	3	0	3rd
12.	*Mirabilis jalapa* L.	1	1	2	1	0	3rd
13.	*Morinda citrifolia* L.	-	4	4	0	1	3rd
14.	*Naringi crenulata* (Roxb.) Nicolson.	-	1	1	0	1	3rd
15.	*Ocimum canum* Schum.	1	-	1	3	0	3rd
16.	*Phyllanthus amarus* Schum.	1	-	1	3	0	3rd
17.	*Plumeria rubra* L.	1	-	1	3	0	3rd
18.	*Senna siamea* (Lam.) Irwin & Barneby	-	1	1	0	1	3rd
19.	*Senna surattensis* (Burm.f) subsp: *glauca* (Lam.) K &S	1	-	1	3	0	3rd

Table 2. continued

No.	Scientific Name	Male disorders	Female disorders	Total number of citations	Male disorders (*Ip*)	Female disorders (*Ip*)	UV Ranking
20.	*Tamarindus indica* L.	-	1	1	0	1	3rd
21.	*Zizyphus mauritiana* Lam.	-	1	1	0	1	3rd

Discussion and conclusion

The total number of traditional practitioners was 15 people, each of whom had their own clinic. The reason to choose traditional practitioners was based on consideration that people had larger knowledge, had more experience and were also wiser in taught.

The use value of the presented 21 species were calculated and categorized into 3 groups (1st, 2nd and 3rd ranking) by using the method of Phillips (1996). It was observed that all plants belonging to 3rd ranking (Table 2).

In the 3rd ranking plants, *Eclipta prostrata* L. showed the highest use value (UV=0.33). Most of the traditional practitioners used it more than other plants in treating female disorders.

By the result of use value, it was observed that the species which showed the second highest use value (UV = 0.27) for female disorders were *Aloe vera* (L.) Burm.f and *Morinda citrifolia* L.

Altogether sixteen species were used to treat female disorders and out of which *Mirabilis jalapa* L. showed insignificant (*Ip* = 0). The rest fifteen species showed average performance (*Ip* = 1).

Six species were used to treat male disorders. Among them, one species showed average performance (*Ip* =1) and the rest five species were very high performance (*Ip* = 3).

There is no unusable species in traditional medicinal field because of their medicinal abilities and abundance (WHO, 2007). Thus, according to the performance of traditional practitioners, it is assumed that the main reason why the parts used from medicinal plants available in Meiktila are more or less effective for 2 ailments as traditional medicine is that these medicinal plants are growing abundantly and could be collected easily in every season of the whole year.

Not only medicinal plants are available easily but also it saves money by using traditional medicine. By recording the use value, it can be known easily that which medicinal plant is more advisable for each ailment. Therefore, it is expected that this result will inform the traditional medicinal knowledge concerning phytotherapy to low and middle income national public.

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Appendix I

Traditional practitioners interviewed by using semistructure questions method have been described with their addresses.

1. U Nyunt Maung - Ma gyi pin pu village, Meiktila (Tasa-34155)
2. Daw San Myint New - Kay tha yar zar Traditional Clinic, Meiktila (Tasa-923)
3. Daw Aye Aye Nwe -Swan Htet Traditional Clinic, Pauk Chaung Quarter, Meiktila (Tasa 05513)
4. U Sein Maung - Ah di ka Traditional Clinic, No.54, Hospita Street, Pauk Chaung (1), Meiktila (Tasa-669)
5. U Khin Mg Kyi - Wun Zin Quarter, Meiktila (Tasa-01758)
6. U Moe Win -Swan Htet Traditional Clinic, Pauk Chaung Quarter, Meiktila (Tasa-05554)
7. Daw San Sint Sint -Department of Traditional Medicinal, Meiktila (Tasa-760)
8. U Han Soe -Kay tha yar zar Traditional Clinic, Meiktila (Tasa-922)
9. Daw Aye Aye Maw - Zi za wa street, Pauk Chaung (1), Meiktila (Tasa-3444)
10. U Zaw Myint - Su Mon Traditional Clinic, Taw Ma village, Meiktila(Tasa- 2789)
11. Daw San San -Ta pa thi Traditional Clinic, Wun Zin Quarter, Meiktila (Tasa-1307)
12. Daw Cho Cho Hmwe -Department of Traditional Medicine, Meiktila (Tasa-4351)
13. Daw Thin Thin Htay -Department of Traditional Medicine, Meiktila (Tasa-4207)
14. Daw Thida Aye -Department of Traditional Medicine, Meiktila (Tasa-3186)
15. Daw Tin Tin Win -Pauk Chaung Quarter, Meiktila (Tasa-2727)

Appendix II

Group of diseases

Male disorders – gonorrhea, gleet, oligospermia

Female disorders – oligomenorrhea, leukorrhea, menorrhea, menopause diseases