Ethnomedicinal Study of Some Species by Native People in Pakhan Gyi Myo Haung, Yesagyo Township

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Abstract

The study was conducted to provide a documentation of the ethnomedicinal knowledge and practices in PaKhan Gyi Myo Haung, Yesagyo Township, Pakokku District, Magway Region. Field work was conducted between 2020 and 2021. Data was collected from 2 traditional healers and 2 local health knowledge persons through questionnaire survey. Traditional healers in the study area use 10 plant species mostly herbs for ethnomedicinal purposes. Four informants were interviewed on their traditional plants belonging to 10 families. Majority of these plants are wild and cultivated herbs. Leaves are usually harvested for use and employed internally as decoctions. The study demonstrates that Pakhan Gyi Myo Haung, Yesagyo Township has a wide variety of plant species of medicinal significance and that the knowledge and practice of using them are still playing a key role in supporting local health care.

Keywords: traditional medicine, wild plant, health care

Introduction

Medicinal plants have important contributions to the healthcare system of local communities as the main source of medicine for the majority of the rural population (Ahmad, 2009). Out of the total 422,000 flowering plants reported from the world, more than 50,000 are used for medicinal purposes (Hamilton, 2004). About 60% of the world population and 80% of the population of developing countries rely on traditional medicine. According to Bhat *et al.,* (2013), more than 4.5 billion people in the developing world rely on medicinal plants as components of their healthcare. The highest popularity of medicinal plant in rural areas is due to high cost of modern drugs and side effects (Marwat, 2008). In the 21st century, scientists are hunting many medicinal plants that can be used for various purposes of human needs. Many thousands of medicinal plants are widely distributed in the world. The quality of herbal medicines has a direct impact on their safety and efficacy.

Plant materials are used throughout developed and developing countries as home remedies. Many herbal remedies individually or in combination have been recommended in various medical treatises for the cure of different diseases. There are many control measures for herbal medicines materials (WHO, 2007). There are 12,000 different plants growing in different climate

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zone in Myanmar and most of them have been regarded as medicinal plants (Kress, *et.al* 2003). The study of traditional medicinal plants and their usage in therapy play a very important role in Myanmar. The present study investigates the traditional utilization of plants of Pakhan Gyi Myo Haung of Yesagyo township located in the Pakokku District of Magway region. The study area is the part of the country's richest biodiversity centre and a source of ethnomedicinal knowledge. This survey is the ethnomedicinal survey to list the medicinal plants and their uses by interviewing the local people and the local medicinal practitioners.

Aims and Objectives

- To observe all medicinal plants in Pakhan Gyi Myo Haung and their uses
- To identify and explore plant species that are used locally for the treatment and prevention of various diseases
- To promote the safety efficacy and quality of traditional medicine
- To encourage an effective participation of local communities in the conservation activities of medicinal plants in Pakhan Gyi Myo Haung
- To obtain the complete list of medicinal plants used and/or known by individual informant.

Study Area

Pakhangyi Myo Haung is located in Yesagyo Township, Pakokku district, Magway Region. Pakhangyi Myo Haung is situated 10 miles from Yesagyo and 18 miles from Pakokku. It is located at western bank of the Chindwin river. Pakhangyi is divided into 5 Quarter. They are Nagar Twin, Myauk Pyin, Thet Ywar, Shwe Pyi Thayar and Taung Minn Kyaung. A few traditional healers within the local communities are responsible for the provision of traditional health–care system.

Yesagyo Township

Yesagyo Township is a township of Pakokku District in the Pakokku Region of central Myanmar. The Chindwin River and then the Ayeyarwaddy form the eastern boundary of the township except for a small area on the eastern site of the Chindwin directly across from the town of Yesagyo, which area was formerly an island in the Chindwin. The location map of the study area is shown in figure (1).

Climate

The climate here is considered to be a local steppe climate. During the year, there is little rainfall in Yesagyo. The average annual temperature is 27.3 ºC/ 81.1 ºF in Yesagyo. The Rainfall here is around 693 mm/ 27.3 inch per year.

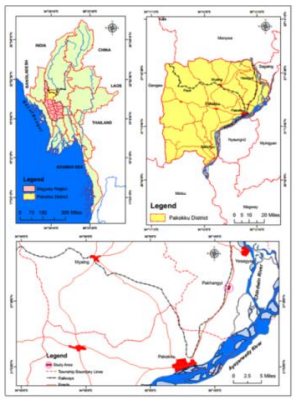


Figure (1) Map of Pakokku District and study area

Sources of Department of Geography, Pakokku University

Material and Methods

Yesagyo Township is located in the easternmost township of Magway Region. It covers an area of 999.0 km with 215352 people. The present study survey was conducted in 3 quarter of Pakhan Gyi Myo Haung, namely Nagar twin, Shwe Pyi Tharyar and Taung minn kyaung.

A total of 3 quarters were interviewed in the Pakhan Gyi Myo Haung.

U Shwe - (56) yrs

U Nyo - (65) yrs

Ashin Muneinda (Monk) - (45) yrs

Daw San Myain - (38) yrs

Interviews were conducted with the help of

1. semi-structured questionaries and
2. the guided field-walk method

Briefly, the interview at Shwe pyi thayar was done on day time guided field-walks through area from where they usually collect their medicinal plants, pointed out plants, local name and described their uses.

Nagar Twin and Yadanar Bomi had more than one area of land around their homesteads to cultivate various medicinal plants for use.

All of the participants were very cooperative in providing the name of medicinal plants that they used for treatment of ailments, methods of formulation and dosages.

During the field interview, the information was noted in the note book including the plant species name, biological forms, habitat and uses.

Knowledge of the ethnomedicine practitioners.

If nurtured through proper analysis, quality assessment with advanced researches, would be on asset for treating and preventing disease of the rural people at minimum cast.

Materials

1. Cutter
2. Clothes
3. Tape
4. Needle
5. Plastid string
6. Note book
7. Plastic bag
8. Thread
9. Rubber ring
10. New paper (Per water soak)

The ethnobotanical study was conducted in the Pakokku district of the Magway Region during the months of February. It is lying between 21º 31' 58.4" N latitudes and between 95º 11' 41.1"E longitudes. With an area of 5290.1 sq. km., surrounded on the East 3 mile Ayeyarwaddy and Chintwin River, West 6 mile from Shinma Taung. The maximum temperature of Shinma Taung is 33° C, minimum Temperature of 19ºC, Average temperature 27ºC.The minimum temperature goes as low as 15ºC during the middle of December and the maximum temperature goes up 41º C in the middle of May.

Methods

The ethnobotanical study was conducted in the Pakokku district of the Magway Region during the months of January and February. Plant specimens were collected in sets of four both in flowering and fruiting stages, taking due care to collect the healthy specimens. Field observations on phenology, habit, habitat, local names, local uses, frequency of occurrence, etc. were recorded in the field notebooks at the time of collection. The collected specimens were tagged with field book numbers. Processing of voucher specimens are used for herbarium preparation and identification. The voucher specimens were brought to the laboratory and processed for herbarium specimen preparation. Identifying the specimens has been taken care in the field itself while the specimens were fresh. Their identity was ascertained in the Herbarium with the help local flora, monographs, revisions and other taxonomic literature.

Ethnobotanical Field Survey and Data Collection

The use of medicinal plant was documented in all 5 quarter areas in Pakhangyi Myo Haung. The survey was carried out from January to February and the data were collected from the general population of the city who were aged above 35 years old. The participants were selected randomly from a list of households in each quarter, and visits were made to each of those households for data collection. Informed consent was obtained from each participant in writing prior to the study. A questionnaire was used to collect the information on local name of the plants, source, part(s) used, method of traditional preparation, and some demographic information of the informants such as age, gender, and educational background.

Plant Specimen Collection and Preservation

Plant species which were used as herbal remedies were collected, dried, preserved, and mounted on herbarium sheets. The plant materials were identified by one of the authors (MTN), who is a botanist. Botanical names and families were verified using book series titled “Revised Handbook to the Flora of Ceylon” [18].

Results

Table 1. Places and number of collected plants

No	Places	Number of Collected plants	Informants	Ages	Genger
1	Shwe Pyi Thar Quarter	1	U Shwe	56 yrs	Male
2	Nagar Twin Quarter,	1	Daw San Myain	38yrs	Female
3	Taung Minn Kyaung	4	U Nyo	65yrs	Male
4	Yadana Bomi Kaung Tike	4	Ashin Muneinda (Monk)	45yrs	Male

Scientific Name - *Achyranthes aspera* L.
Family Name - Amaranthaceae
English Name - Rugh Chaff tree
Loacl Name - Kyet Maut Sue Pyan
Part Used - Rhizomes
Uses - The rhizomes are applied with the salt to treat eye problem
Place - Yadanar Bomi Kaung Tike, Pakhangyi


Habit


Rhizome

Scientific Name - *Acorus calamus* L.
Family Name - Acoraceae
English Name - Sweet Flag
Loacl Name - Lin Nay
Part Used - Bark
Uses - The apply of the rhizome is drinked to treat cough
Place - Pae Taw Kaung, Pakhangyi


Habit



Barks

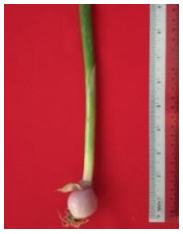
Scientific Name - *Ageratum conyzoides* L.
Family Name - Asteraceae
English Name - Goatweed
Loacl Name - Khwae Thay Pan
Part Used - Leaves
Uses - The squeeze of the leaves are drink to treat cough
Place - Pae Taw Kaung, Pakhangyi


Habit


Leaves

Scientific Name - *Allium cepa* L.
Family Name - Liliaceae
English Name - Onion
Loacl Name - Kyet Thon Ni
Part Used - Bulbs
Uses - Apply onion juice to the affected area and apply the dressing to the wound to detoxicfication


Habit


Bulb

Place - Pae Taw Kaung, Pakhangyi

Scientific Name - *Andrographis paniculata* L.
Family Name - Acantaceae
English Name - Creat, Kariyat
Loacl Name - Say Kha Gyi
Part Used - The whole plant
Uses - The decoction of the whole plant is drinked to treat cough and dysentery
Place - Yadanar Bomi Kaung Tike, Pakhangyi


Habit


The Whole Plant

Scientific Name - *Boerhaavia diffusa* L.
Family Name - Nyctaginaceae
English Name - Hog weeds
Loacl Name - Prinnawa, Sin Pi Lae
Part Used - roots
Uses - The root is applied with the salt to cure throat disease
Place - Shwe Pyi Tharyar Quarter, Pakhangyi


Habit


Roots

Scientific Name - *Bombusa wamin* L.
Family Name - Poaceae
English Name - Buddha Bamboo
Loacl Name - Wa min
Part Used - Stem
Uses - The stem is applied with the salt to treat arthritis
Place - Yadanar Bomi Kaung Tike, Pakhangyi

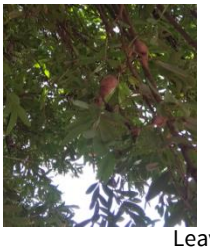

Habit


Stem

Scientific Name - *Hypselandra variabilis* L.
Family Name - Capparidaceae
English Name - Unknown
Loacl Name - Thamone
Part Used - buds and leaves
Uses - the buds are applied to treat eye problem and leaves are used to treat hypertension, diabetes
Place - Yadanar Bomi Kaung Tike, Pakhangyi


Habit


Bud



Leaves

Scientific Name - *Clausena excavate* L.
Family Name - Rutaceae
English Name - Curry leaf
Loacl Name - Pyin daw thein
Part Used - Leaves
Uses - The leaves and other vegetables are cooked to treat diabete
Place - Yadanar Bomi Kaung Tike, Pakhangyi


Habit


Leaves

Scientific Name - *Cocculus hirsutus* L.
Family Name - Menispermaceae
English Name - Broom Creeper
Loacl Name - Kywet nabaung
Part Used - The whole plant
Uses - The crush of the whole plant is drinked to treat hypertion
Place - Pae Taw Kanug, Pakhangyi


Habit


The Whole Plant

Table 2. List of Medicinal Plants collected in field trip

No	Scientific Name	Family Name	Vernacular Name	Part Used	Form of Preparation
1	*Achyranthes aspera* L.	Amaranthaceae	Kyet Maut Sue Pyan	Rhizome	Politice
2	*Acorus calamus* L.	Acoraceae	Linn Nay	Rhizome	Politice
3	*Ageratum conyzoides* L.	Asteraceae	Khway Thay Pan	Leaves	Crushed
4	*Allium cepa* L.	Liliaceae	Kyet Thon Ni	Bulb	Politice
5	*Andrographis paniculata* L.	Acanthaceae	Say Khar Gyi	Whole plant	Decoction
6	*Boerhaavia diffusa* L.	Nyctaginaceae	Paranawa	Root	Politice
7	*Bombusa wamin* L.	Poaceae	Wamin	Stem	Politice
8	*Hypselandra variabilis* L.	Capparidaceae	Thamone	Leaves and bud	Politice
9	*Clausena excavate* L.	Rutaceae	Pyin Daw Thein	Leaves	Cooked
10	*Cocculus hirsutus* L.	Menispermaceae	Kywet Nabaung	Whole plant	Crushed

Table 3. Habit of Collected Medicinal Plants

Herb	Shrub	Small Tree
6	1	3

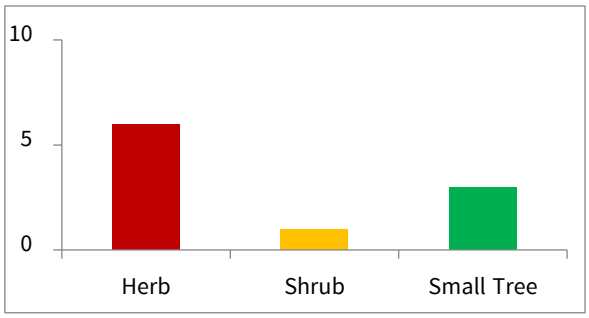


Figure 2. Habit of Collected Medicinal Plants

Table 4. Percentages plant parts used for medicinal purpose

No	Plant part	Number of uses	Number of uses(%)
1	Rhizome	2	20%
2	Leaf	2	20%
3	Bulb	1	10%
4	Whole plant	2	20%
5	Root	1	10%
6	Stem	1	10%
7	bud	1	10%

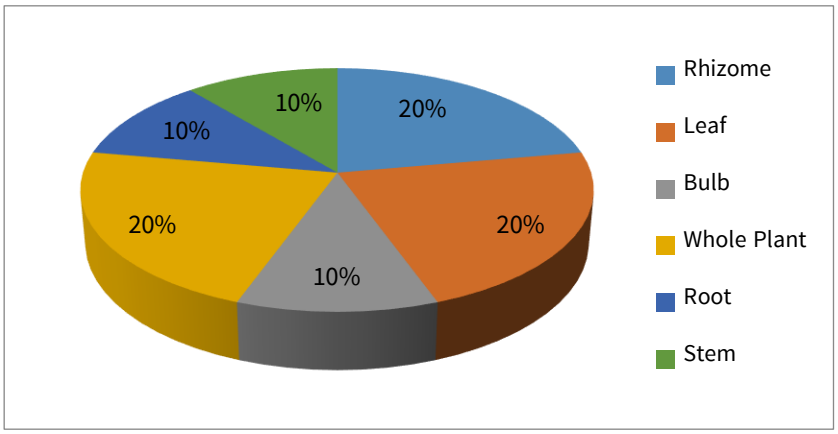


Figure 3. Models of plant parts used for medicinal purpose

Photo Records of Interview and Plant Collection

Discussion and Conclusion

In this study, 10 plants species belonging to 10 families have been recorded. Health ailment in this study area were eye problem, cough, detoxicification, dysentery, throat disease, arthritis, hypertension, diabetes. A total of 3 plants species of 3 families were used for cough, 2 plants species of 2 families were used for diabetes, 2 plants species of 2 families were used for eye problem, 2 plants species of 2 families were used for hypertension, etc.,

The present study provides information on 10 medicinal plants used in the study area by local traditional healers. The study revealed that people of the region have used plant resources for their various ailments. Dominance of medicinal plant species from families of Acanthaceae could be attributed to their wider distribution and abundance in the flora area. Present study elucidates that the people of the region have been using plant resources for their various ailments.

It was observed during research study that the knowledgeable women were more concentrated as compared to the men of this region of Yesagyo Township. Medicinal plant knowledge can be derived from experience and degree of cultural contact with curative plants. In conclusion, Pa Khan Gyi Myo Haung has plenty of medicinal plants and the people of the highly dependent on these plants for medicinal and other ethnobotanical purposes. The people of the

region have tremendous traditional knowledge the utilization and preparation of various ethnomedicinal remedies. As such, studies on the documentation of ethnomedicines may be extended to other areas for the sustainability of traditional knowledge.

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