

Ethnomedicinal Plants Used by Traditional Healers in Laguna, Philippines

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Abstract –*This study aimed to document the traditional knowledge of traditional healers of Laguna, Philippines on the use of medicinal plants in treating different diseases. Thirty two respondents were identified following a snowball sampling technique and were interviewed on their traditional knowledge and practice of using different medicinal plants. The gathered data were identified with the help of literature from different published articles and websites. A total of 50 plant species, grouped into 29 families were recorded. The families most represented were Lamiaceae with eight species, Euphorbiaceae with five species and Asteraceae with three species. Out of 27 medicinal uses, the eight most common were urinary tract infection, wound infection, stomachache, cough, diabetes, headache, cold and hypertension. The commonness preparations were done by boiling the leaves with water (decoction) and taken internally.*

Keywords –*diseases, ethnomedicinal plants, traditional healers.*

INTRODUCTION

People around the world are always looking the potential of plants as medicinal sources in curing various diseases. Since human evolved, people practiced herbal medicine as an alternative health care system because it is affordable and locally available [1]. Alternative systems of medicine are popular among developing countries where 70% of their population relied [2]. The common knowledge of people on the utilization of medicinal plants is passed by the traditional healers from generation to generation [3]. Traditional healers are using their conventional knowledge to treat many diseases, and they use the plants as the main source of medicine [4].

In today's situation of the world, there is a global trend in studying medicinal plants and its traditional uses. The problem is that the common knowledge on medicinal plants of different societies is fast disappearing because of the introduction of modern and up-to-date technologies and changes of traditional culture [5]. In some places of the world like the Philippines, the ethnomedicinal knowledge is deteriorating because of poor medicinal knowledge of younger generation [6]. Since the new generation is not interested in carrying the old tradition the disappearance of traditional knowledge is in danger and the traditional healers are decreasing in number. Before the traditional knowledge dies it is important and necessary to document the importance of plants [7].

This study provides basic information about the medicinal plants used by traditional healers in Laguna, Philippines. Through this research, the traditional knowledge of traditional healers on medicinal plants will be documented and this will transfer to the scientific community of the world to discover and develop new and better drugs for the benefits of human beings.

OBJECTIVES OF THE STUDY

The study was conducted to document the knowledge or information and utilization of medicinal plants used by traditional healers in Laguna, Philippines.

MATERIALS AND METHODS

Study Area

Laguna is one of the most progressive provinces in the Philippines. Geographically it is surrounded by different mountains like Sierra Madre, Banahaw, and Makiling. The Philippines largest lake the Laguna de Bay also surrounds it. Laguna has a wide variety of medicinal plant species and the knowledge and practice of using them are still playing a role in supporting local health care despite the rise of modernization. Sixteen rural municipalities were sampled because of the reliance of local residents to traditional health care services provided by traditional

healers. These were Sta. Maria, Famy, Mabitac, Siniloan, Pangil, Pakil, Paete, Kalayaan, Lumban, Pagsanjan, Sta. Cruz, Pila, Cavinti, Louisiana, Magdalena and Majajjay.

Data Collection

Data collection was carried out from November 2016 to January 2017. Snowball sampling technique was used to identify target traditional healers who were known to be knowledgeable on the traditional uses of medicinal plants. A total of 32 respondents were identified. The respondents were first signed an informed consent form prior to the interview. Using semi-structured questionnaire the traditional healers were asked to name the different plants used, parts of the plant used, and the purpose of use. Interviews were done in conjunction with a field visit accompanied by the traditional healers to collect and take photographs of recorded medicinal plants. After the collection the collected plant specimens were preserved and identified based on taxonomic accounts in published references and websites including stuartxchange.com and philippineplants.org.

RESULTS AND DISCUSSION

Table 1 shows the list of the medicinal plants used by traditional healers in Laguna, Philippines to treat different ailments or diseases. A total of 50 plant species distributed to 29 families was recorded. The highest number of species was represented by family Lamiaceae with eight species followed by families Euphorbiaceae with five species; Asteraceae with three species; Annonaceae, Boraginaceae, Fabaceae, Lauraceae, Myrtaceae, Piperaceae, Poaceae and Zingiberaceae with two species and the rest of the families were represented by only one species.

Out of 27 medicinal uses, the top uses were: (1) urinary tract infection, (2) wound infection, (3) stomachache, (4) cough, (5) diabetes, (6) headache, (7) cold and (8) hypertension. The species *Pandanus tectorius*, *Blumea balsamifera*, *Elaeagnus alingaro*, *Chrysopogon aciculatus*, *Imperata cylindrica* and *Triumfetta bartramia* have the most number (6 or 7) of different medicinal uses. The preparation and mode of administration of medicinal plants vary depending on the kind of disease or ailment treated. Commonly the medicinal plants were prepared by boiling the leaves or roots with water and administered internally by drinking the juice. External administration of the medicinal plants was also done through spreading the

leaves directly on the affected part of the body and wrapped with a piece of cloth or as a poultice.

The most utilized plant part for medicinal preparation was the leaves. The leaves of the plants are the most abundant and easier to utilize where the chemical makeup was present. Moreover, the leaves of the plants provide conservation for the plants as compare to roots.

In this study, a total of 50 plant species were documented as medicinal plants used by traditional healers in Laguna, Philippines. The plants documented in this study are also documented and utilized as medicinal plants in Vietnam such as *Artemesia vulgaris*, *Jatropha curcas*, *Piper betle*, *Imperata cylindrical*, *Zingiber officinale* and *Curcuma longa* [8]. Similar plants are also documented in the different studies conducted in the Philippines such as the studies of Balinado and Chan [9], Baleta et al. [10], Morilla et al. [11], Olowa and Demayo [12], Ong and Kim [6] and Pizon et al. [13].

The most frequently claimed medicinal uses were urinary tract infection and wound infection, stomachache, cough and diabetes, headache, cold and hypertension. Similarly, in Benguet Province, Philippines, *Lagerstroemia speciosa* is being used in the treatment of urinary tract infection, diabetes, diarrhea, and mouth ulcers [14]. In Pangasinan, Philippines, *Euphorbia hirta* is also used in treating dengue [15]. In Pakistan, *Cordia dichotoma* is also being used as a medicinal plant in treating irritation of the urinary tract, alleviation of thirst, and dry cough [16].

The most commonly used parts are the leaves. Similar researches conducted, reported that most of the common remedies were taken from the leaves [17][18][19]. The fruits, roots, stem and seeds are also utilized.

The most common method is decoction or boiling, similar to the report of Rachid et al. [20] followed by poultice, eating in a fresh state, extraction, pounding and cooking.

CONCLUSION AND RECOMMENDATION

This study of medicinal plants and their uses shows the rich tradition in the ethnomedicinal knowledge of traditional healers in Laguna, Philippines. The study gave information on the importance of different plants and how it can be used. Most of the plants are shrubs and herbs and commonly cultivated. The medicinal plants are commonly utilized as decocted leaves and taken internally and

are used to cure some illnesses such as urinary tract infection and wound infection, stomachache, cough and diabetes, headache, cold and hypertension. This study provides basic information about the medicinal plants used by traditional healers can further be tested for future purposes.

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Table 1. Medicinal plants used by traditional healers in Laguna, Philippines

Family	Scientific Name	Local Name	Parts Used	Methods Used	Purpose of Use
Amaranthaceae	<i>Amaranthus spinosus</i>	Uray	Leaves	Decoction	Cough and Asthma
Anacardiaceae	<i>Mangifera indica</i>	Mangga	Fruits and Leaves	Eating in a fresh state and Decoction	Diabetes and Wound Infection
Annonaceae	<i>Annona muricata</i>	Guyabano	Fruits and Leaves	Eating in a fresh state and Decoction	Diabetes, Urinary Tract Infection, Hypertension and Wound Infection
	<i>Annona squamosa</i>	Atis	Leaves	Poultice	Headache and Stomachache
Apocynaceae	<i>Rauwolfia serpentina</i>	Serpentina	Leaves	Decoction	Cough
Araceae	<i>Philodendron lacerum</i>	Bagawak	Leaves	Poultice	Sprain and Stomachache
Asphodelaceae	<i>Aloe vera</i>	Sabila	Leaves	Extraction	Skin Burn
Asteraceae	<i>Artemisia vulgaris</i>	Damong Maria	Leaves	Decoction and Poultice	Vomiting of blood, Lung Disease, Cough, and Ringworm
	<i>Blumea balsamifera</i>	Sambong	Leaves	Decoction	Headache, Cold, Fever, Flu, Urinary Tract Infection, and Stomachache
	<i>Tagetes erecta</i>	Amarillo	Leaves	Pounding and Poultice	Wounds
Boraginaceae	<i>Carmona retusa</i>	TsaangGubat	Leaves	Poultice	Body Pain and Cough
	<i>Cordia dichotoma</i>	Anonang	Leaves	Decoction	Fever after giving birth
Caricaceae	<i>Carica papaya</i>	Papaya	Leaves	Pounding and Extraction	Dengue
Combretaceae	<i>Quisqualis indica</i>	Niyog-niyogan	Leaves	Decoction	Urinary Tract Infection
Convolvulaceae	<i>Ipomea batatas</i>	Kamote	Leaves	Decoction	Diabetes and Wound Infection
Cucurbitaceae	<i>Momordica charantia</i>	Ampalaya	Fruits and Leaves	Cooking and Extraction	Diabetes and Wound Infection
Elaeagnaceae	<i>Elaeagnus alingaro</i>	Alingaro	Roots	Decoction	Stomachache, Headache, Muscle Pain, Urinary Tract Infection, Liver Disease, and Gall Bladder Stone
Euphorbiaceae	<i>Antidesma bunius</i>	Bignay	Leaves	Decoction	Arthritis and Urinary Tract Infection
	<i>Codiaeum variegatum</i>	Sagilala	Leaves	Poultice	Body Pain
	<i>Euphorbia hirta</i>	Tawa-tawa	Leaves, Stem, and Roots	Decoction	Dengue
	<i>Jatropha curcas</i>	Tubangbakod	Leaves	Poultice	Sprain and Stomachache
	<i>Manihot esculenta</i>	KamotengKah	Leaves	Decoction	Diabetes, Wound

		oy			Infection, and Hypertension
Fabaceae	<i>Gliricidia sepium</i>	Madre kakao	Leaves	Pounding	Diarrhea, Vomiting, and Urinary Tract Infection
	<i>Phaseolus lunatus</i>	Patani	Seeds	Cooking	Diabetes and Wound Infection
Lamiaceae	<i>Clerodendrum intermedium</i>	Kasupanggih	Leaves	Poultice	Sprain and Stomachache
	<i>Mentha spicata</i>	Yerba buena	Leaves	Decoction	Cough, Cold and Headache
	<i>Ocimum basilicum</i>	Sulasi	Leaves	Decoction	Cough
	<i>Origanum vulgare</i>	Oregano	Leaves	Decoction	Headache, Cold, Cough
	<i>Orthosiphon aristatus</i>	BalbasPusa	Leaves and Roots	Decoction	Urinary Tract Infection
	<i>Plectranthus scutellarioides</i>	Mayana	Leaves	Poultice	Boil
	<i>Premna adorata</i>	Alagaw	Leaves and Stem	Extraction and Poultice	Skin disease and allergies
	<i>Vitex negundo</i>	Lagundi	Leaves	Decoction	Cold and Cough
Lauraceae	<i>Cinnamomum mercadoi</i>	Kalingag	Leaves	Decoction	Cough, Nausea, Vomiting, and Hypertension
	<i>Persea Americana</i>	Avocado	Leaves	Decoction	Stomachache, Urinary Tract Infection, Diabetes, and Hypertension
Lythraceae	<i>Lagerstroemia speciosa</i>	Banaba	Leaves	Decoction	Urinary Tract Infection
Moringaceae	<i>Moringa oleifera</i>	Malunggay	Fruits and Leaves	Eating in a fresh state and Decoction	Diabetes and Wound Infection
Myrtaceae	<i>Psidium guajava</i>	Bayabas	Leaves	Decoction	Diarrhea, Wound Infection
	<i>Syzygium cumini</i>	Duhat	Fruits and Leaves	Eating in a fresh state and Decoction	Diabetes and Wound Infection
Oxalidaceae	<i>Averrhoa bilimbi</i>	Kamias	Leaves	Decoction	Fever
Pandanaceae	<i>Pandanus tectorius</i>	Pandan	Leaves	Decoction	Cold, Fever, Flu, Stomachache, Urinary Tract Infection, Diabetes, and Wound Infection
Piperaceae	<i>Peperomia pellucida</i>	Pansit-pansitan	Leaves	Decoction	Hypertension and Body Pain
	<i>Piper betle</i>	Ikmo	Leaves	Poultice	Sprain
Poaceae	<i>Chrysopogon</i>	Amorseko	Roots	Decoction	Stomachache,

	<i>aciculatus</i>				Headache, Muscle Pain, Urinary Tract Infection, Liver Disease, and Gall Bladder Stone
	<i>Imperata cylindrica</i>	Kugon	Roots	Decoction	Stomachache, Headache, Muscle Pain, Urinary Tract Infection, Liver Disease, and Gall Bladder Stone
Rutaceae	<i>Citrofortunella microcarpa</i>	Calamansi	Fruits	Extraction	Cold and Cough
Sapotaceae	<i>Chrysophyllum cainito</i>	Kaimito	Fruits and Leaves	Eating in a fresh state and Decoction	Diabetes and Wound Infection
Solanaceae	<i>Capsicum annuum</i>	Sili	Leaves	Poultice	Boil and Wounds
Tiliaceae	<i>Triumfetta bartramia</i>	Kulutkulutan	Roots	Decoction	Stomachache, Headache, Muscle Pain, Urinary Tract Infection, Liver Disease, and Gall Bladder Stone
Zingiberaceae	<i>Curcuma longa</i>	Luyangdilaw	Rhizome	Decoction	Stomachache
	<i>Zingiber officinale</i>	Luya	Rhizome	Decoction	Cold and Cough

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