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Assessment of Indigenous Medicinal Plants Used to Cure Common Illnesses in the Community: Basis for Conservation and Domestication

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ABSTRACT

There is a lack of necessary medications during emergencies. In a post-disaster scenario, readily available remedies like herbs function as an alternative medicine to react swiftly. To meet these demands and the needs of rural residents who utilize wild-crafted herbs as a staple therapy for a range of ailments in their community, a thorough investigation was carried out. Because people are unaware of their use, the presence and quantity of these plants swiftly decline. This study aims to evaluate the locally grown medicinal plants in Pilar, Capiz. Primary data came from seventy-two key informants. Secondary data were acquired by means of a field survey employing the transect walk approach and the visual encountered method. Plants were gathered from backyard and roadside gardens. The primary informants made the identification on the spot, and it was confirmed by documents that had been released. Sambong, lagundi, yerba Buena, malunggay, tawa-tawa, luya, alusiman, atis, bayabas, bunga, kataka-taka, bunga, kugon, makabuhay, oregano, taglad, and tuba are the sixteen species of herbal plants that have been identified. It was customary to use leaves to treat cuts and wounds. There was the most tawa-tawa. Oregano, kataka, and bayabas were the most often used herbs, with a Use-Value Index of 0.99 and the greatest fidelity level of 99%.

INTRODUCTION

Humanity has long utilized a variety of plants to treat a wide range of illnesses. Medicinal plants are vital to the health care of rural residents in the Philippines, particularly in rural regions. Herbal plant remedies have long been known to have therapeutic properties. The plants and their extracts having been utilized therapeutically even with the availability of modern pharmaceuticals. Mothers utilized thousands of different plant species that were said to have therapeutic qualities. The discovery of modern medications from native medicinal plant resources is greatly aided by ethnomedical research. Information regarding beneficial medicinal plant species is available from reliable sources, and they can be the focus of management and domestication efforts. The use of plant species as traditional medicines offers rural populations in underdeveloped nations a viable alternative in terms of healthcare services. According to estimates, the primary healthcare system in poor nations serves around 80% of the population using traditional medicines. These conventional medications are reasonably priced, secure, and safe. Roughly 85% of conventional medications used in primary healthcare worldwide come from plant species. Thus, medicinal plants represent an important part of the indigenous history of the world. Out of the 422,000 known species of flowers, about 50,000 are utilized as medicine. Currently, the scientific community is paying significant attention to studies on the traditional usage of many plant species. An essential component of the conservation strategy is the recording of knowledge on conventional herbal treatments. Therefore, the current study records the customary knowledge of Pilar's local people regarding the therapeutic use of the variety of nearby plants. Despite the availability of rapidly advancing technologies in contemporary medicine, many people in rural communities still rely on the usage of medicinal herbs.

There is a growing emphasis on using plant materials as a source of medicine for a wide range of ailments in rural communities due to factors such as population growth, insufficient drug supply in these areas, high treatment costs, adverse effects of many synthetic drugs, and the use of plant materials as medicine. Unusual occurrences like disasters have a significant potential loss. Fires, floods, and earthquakes are a few of the calamities. Such calamities may cause significant damage or impact a larger region. These cases take longer to handle, and survivors are frequently sent to evacuation centers or shelters. Long-term evacuees in shelters or evacuation centers report a variety of health issues, such as chronic ailments, pain, sleeplessness, and infectious infections. When disaster strikes and if not well prepared, there will be a shortage of essential drugs that had to be used. In order to respond quickly, any available cure such as herbs or medicinal plants should be used as alternative medicine and plant medicine may be all that we have to turn to in a post-disaster situation. Medicinal herbs and other plants have a long history of effectiveness in the field. A comprehensive and in-depth study of these herbal plants was conducted by the researcher to address these needs and also the needs of the rural folk who use wild-crafted herbs as mainstay therapy for a variety of illnesses in their community. This study

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entitled assessment of indigenous medicinal plants used to cure common illnesses in the community basis for domestication and conservation was conducted with the following: a. to assess the indigenous medicinal plants used to cure common illness in the community; b. to document the different medicinal plants used to cure common illness, its scientific names, local names, and its usage; and c. to find out the abundance, fidelity level and Use-value Index of indigenous medicinal plants in the community.

LITERATURE REVIEW

In their study "Ethnobotanical survey of medicinal plants used by the Mamanwa tribe of Surigao del Norte and Agusan del Norte, Mindanao, Philippines," Nuneza *et al.* (2021) noted that traditional knowledge about medicinal plants is important for both drug development and public health. Research on ethnomedicinal plants has grown throughout time in the Philippines. Nevertheless, there is a dearth of information on Mindanao's ethnobotanical expertise, much of which focuses on other well-known tribes. This ethnobotanical research was conducted in 10 Indigenous Cultural Communities (ICCs) in Surigao del Norte and Agusan del Norte, Philippines, to chronicle medicinal plants utilized by the Mamanwas tribe. Informal interviews and semi-structured questionnaires were utilized to collect ethnomedical data from 143 local informants on the plant parts used, various preparation methods, and modes of usage. It is known that 78 plant species, divided into 70 genera and 42 families, are used in local communities to cure a range of illnesses. Family Asteraceae retained the majority with ten species that were claimed to have therapeutic applications. With 32 plant species accounting for 41% of the 78 species, trees made up the biggest share. When it comes to the components of plants that are used, leaves make up 46%. Decoction (40%) was the most popular method of preparation, followed by poultice (18%) and heating over fire (14%). The important ethnomedical information that has been documented will aid in maintaining the rapidly declining custom of ethnic communities using therapeutic plants.

According to Saro *et al.* (2022) the local community's beliefs and culture have an impact on how medicinal plants are used. The plant has a significant function in the provision of ingredients for conventional medicine. The research, which is an attempt to record traditional knowledge, highlights the variety of medicinal plants found in populations residing in isolated locations with restricted access. The recording of ethnobotanical data may have an impact on the preservation of the natural diversity of medicinal plants utilized in Brgy, rather from being primarily done to capitalize on the potential of these plants. Philippines: Berseba, Bayugan City, Agusan del Sur.The researchers collected data on medicinal plant diversity from 15 key informants, ranging in age from 40 to 60. Based on the name, scientific method of data collection, and the collected data, the study revealed that local healers utilized nine plant species. There were nine genera and eight families among these plant species. There are two plant species in the Ateraceae family, and there are seven more families: Poaceae, Myrateae, Menispermaceae, Rutaceae, Lauracea, and Piperacea. The indigenous population and customary healers of the Brgy. Similar traditions were identified in Berseba, Bayugan City, where people utilize different plants from their surroundings and different portions of the rhizome. Based on the comments and observations, the common symptoms that are treated with medicinal plants include stomachache, fever, cough, majority of the people in Brgy. While some in Berseba, Bayugan City employ both contemporary and traditional treatment, traditional healthcare methods are still used by some. The care recorded in this study demonstrated the important significance that plant resources play in sustaining the everyday necessities and medical requirements of the populations that live on the periphery of forested regions. The documenting of this diversity of knowledge offers insights into the probable future growth of these plants.

MATERIALS AND METHODS

This study was conducted at Pilar, Capiz utilizing the descriptive research design. Primary data were obtained using semi-structured interviews and individual conversation with (72) key informants, which includes Brgy. Captains, BHW, and community elders on the medicinal plants used in the community, their utilization as medicine, and the diseases treated by the plants. Secondary data were gathered through field survey using the visual encountered method and transect walk technique along the roadside and home gardens on the abundance of medicinal plants in their community. Plant identification was done on-sight by the key informants and was checked on published materials like books, journal and with the web. Sample Specimen were also collected and was brought to the laboratory for further identification and was arranged according to standard taxonomic groupings. The researcher utilized the method developed by Curtis & McIntosh (1950) to measure the abundance, fidelity level and used value index of common medicinal plants.

RESULTS AND DISCUSSION

Based on the field survey there were 16 species of common medicinal plants present and used to cure common illness in Pilar, Capiz namely: sambong, lagundi, yerba Buena, malunggay, tawa-tawa, luya, alusiman, atis, bayabas, bunga, kataka-taka, bunga, kugon, makabuhay, oregano, taglad and tuba.

Common Medicinal Plants and its Usage to cure common Illness in the community

According to the key informant interview and the locals' conversations, several plant components were utilized to treat common illnesses. The popular medicinal herbs

Table 1: Indigenous medicinal plants found in Pilar.

English Name	Common Names	Scientific Names
Elumea, Ngaicamphor;	Sambong	Blumea balsamefera
Five-leaved Chaste tree	Lagundi	Vitex negundo
March Mint	Yerba Buena	Clinopodium douglasii
Horseradish Tree	Malunggay	Moringa Oleifera
Asthma Plant	Tawa-Tawa	Euphoria Hirta
Ginger	Luya	Zingeber officinale
Purslane	Alusiman	Portulaca olearacea L
Sugar Apple	Atis	Anona squamosa L
Guava	Bayabas	Psidium guajava L
Betel-nut Plam	Bunga	Areca catechu L
Life Plants	Katake-taka	Kalanchoe pinnata (Lam.) Pers
Cogon grass	Kugon	Imperata cylindrica L.Beauv
Heavenly Elixir	Makabuhay	Tinospora rumphii Boerl
Oregano	Oregano	Coleus aromaticus Benth.
Lemon Grass	Tanglad	Andropogon citratus DC Stap
Croton Oil Plant	Tuba	Croton tiglium Linn

used in Pilar, Capiz, to treat common illnesses. Sambong roots were used as an expectorant, fever treatment, and to treat cuts and wounds. Lagundi leaves were used to treat asthma and cough. Yerba Buena leaves were used to treat coughs, fevers, toothaches, headaches, and bug bites. Malunggay leaves were employed as a remedy for cuts, wounds, and eye pain. Dengue was treated with juice extract from the tawa-tawa stem, and milky liquid was used to treat painful eyes. Luya roots reduce blood pressure and ease stomach gas. Blood pressure was lowered using the whole alusiman plant. ATI roots and leaves were used to treat bug bites. The leaves and roots of bayabas were used as an antiseptic, to treat diarrhoea, and to decrease blood pressure. Bunda nuts were used as a stimulant and to treat foul breath. Leaves from kataka-taka plants were used to treat burns, sprains, and boils. Kugon leaves were used to treat UTIs and wounds. Scabies, ulcers, and dyspepsia were all treated with makabuhay leaves and vines. Leaves of oregano were used to treat boils, bronchitis, coughing, and asthma. Tuba leaves were used to treat stomachaches, and tanglad leaves were used to lower fever and facilitate digestion. The most common part of plants used by most of the residents were leaves.

Table 2: Common medicinal plants, plant parts and its uses.

Common Names	Common Illness / Disease	Parts Used
Sambong	Fever, expectorant, wounds and cuts	Roots and leaves
Lagundi	Cough and asthma	Leaves
Yerba Buena	insect bites, fevers, toothaches, headaches. Cough	Leaves
Malunggay	Wounds, cuts, sore eyes	Leaves
Tawa-Tawa	Anti- inflammatory, cure sore eyes, hemo-static	Milky juice from stem
Luya	Relieves gas, lower blood pressure	Roots
Alusiman	Reduce blood pressure	Whole plant
Atis	Insect bites	Leaves, roots
Bayabas	Diarrhea, lower blood pressure, antiseptic	Leaves, fruits
Bunga	Stimulant, bad breath	Nut
Kataka-taka	Boils, sprains, burns	Leaf
Kugon	Wound healing, UTI	Leaf
Makabuhay	Indigestion, ulcer, Scabies	Leaf, vine
Oregano	asthma, chronic coughs bronchitis, boils	Leaves
Tanglad	Reduce fever, aid in digestion	Leaves
Tuba	Stomachache	Leaves

Abundance, Fidelity Level and Used-Value Index of Common Medicinal Plants

When it comes to the variety of medicinal plants found in Pilar, the most common species is kugon, which has an abundance rate of 18.85. Other species that are relatively abundant include tawa-tawa (18), luya (17), tanglad (15), alusiman (10), yerba-buena and kataka-taka (9), oregano (8.5), tuba and atis (5), malunggay (4), lagundi (3.5), and sambong (21).

By calculating the fidelity level (FL), we were able to ascertain which plant species the informants in the research region most commonly utilized to treat a certain category of ailments. With a fidelity level of 99, bayabas, kataka, and oregano were the most often used plants. Other plants with a fidelity level of 98 included sambong, yerba-buena, malunggay, kugon, and tanglad; a fidelity level of 97.6 included lagundi; a fidelity level of 97.6 included bunga, makabuhay, and tuba; 96, tawa-tawa and atis with 95, and alusiman with only 86.

The plants' usage values were calculated to measure each plant's significance according to the frequency with which a certain number of individuals acknowledged it.

With a UVI of 0.99, bayabas, kataka-taka, and oregano had the highest values. This indicates that oregano, bayabas, and kataka-taka were the three most significant medicinal herbs in Pilar. With 0.98 UVI, sambong, malunggay, kugon, and tanglad came next. Alusiman has the lowest UVI of 0.86, indicating that it is the least utilized medicinal plant in Pilar, Capiz.

Table 3: Abundance, fidelity level and use-value index of common medicinal plants.

Common Names	Abundance	Fidelty Level (Fl)	Use Value Index
Sambong	2	98	0.98
Lagundi	3.5	97.6	0,97
Yerba Buena	9	98	0.97
Malunggay	4	98	0.98
Tawa-Tawa	18	95	0.95
Luya	17	96	0.96
Alusiman	10	86	0.86
Atis	5	95	0.95
Bayabas	1.75	99	0.99
Bunga	1.65	97	0.97
Kataka-taka	9	99	0.99
Kugon	18.75	98	0.98
Makabuhay	8	97	0.97
Oregano	8.5	99	0.99
Tanglad	15	98	0.98
Tuba	5	97	0.97

CONCLUSION

According to this study, 16 different kinds of popular medicinal plants are utilized by the 24 barangays of Pilar, Capiz, to treat common ailments. These included kugon, makabuhay, oregano, taglad, tuba, sambong, lagundi, yerba Buena, malunggay, tawa-tawa, luya, alusiman, atis, bayabas, and bunga, kataka-taka, and bunga. These medicinal plants are used to treat common illnesses including fever, cough, cuts, boils, and burns by applying plant components like leaves, roots, and stems.

In addition to offering a list of beneficial plants this documentation of medical knowledge will act as a tangible cultural archive for the benefit of parents in the future. Additionally, this work might provide baseline information for next functional bioactivity assessment of native plant species.

Recommendations

The study's conclusions led to the following recommendations: In addition to growing vegetables, the locals are encouraged to grow and plant medicinal plants. Barangay officials are encouraged to establish medicinal gardens in each barangay in addition to gulayan sa barangay. The LGU may establish regulations for the domestication and preservation of medicinal plants. Schools are also allowed to maintain their own medicinal gardens and teach about the benefits of these plants in their curricula.

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