

Ethnobotany of Javanese Ethnic Garden Plants in Medan City

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Abstract:

The yard of the house is an open environment around the house and is provided to support various social and economic activities related to the owner of the house. The purpose of this study was to determine the types of horticultural crops based on the Javanese in Medan. The survey method used is the survey and interview methods. The result, obtained 12 types of plants that have the potential as medicinal plants and 2 types of plants that have the potential as ornamental plants. All types of plants have medicinal properties, this shows that the home garden has many benefits in providing potential types of plants, especially the daily needs of the family.

Keywords:

plants; yard; medicinal plants; decorative plants

I. Introduction

The yard of the house is an important part of the land use of the house. The importance of the role of vegetable fields requires strengthening global understanding, especially in efforts to protect biodiversity and garden functions. Yards are generally known as ready-to-use customary lands around settlements and community settlements, where several types of useful plants are planted and used for daily needs (Hakim, 2014). In terms of language, garden is a Javanese term which is defined as a multicultural garden related to the house. One of the benefits of the garden is as a source of food to meet the needs of fruits and vegetables at home. In addition, the park also functions as a source of building materials, firewood, spices, natural medicines and pesticides, supporting ceremonial and cultural functions (Dwiratna et al, 2016; Muary et al, 2010).

Ethnobotany in vegetable gardens is often interesting to study because of the unique relationship between the diversity of cultivated plant species and regional needs, which often reflect the culture of the community. The yard of the house is an open area of the home environment that is provided to support various social and economic activities related to the owner of the house. People often plant varieties of plants for specific purposes, such as building fences in the house, adding to the beauty of the environment in the house, or providing shelter from the hot sun (Kusmiati & Solikhah, 2015; Pujowati, 2016; Suharyanto et al, 2019).

Indonesian people are used to consuming traditional medicines (jamu) such as Chinese herbal medicine for generations, and this habit has become local wisdom in maintaining health. Traditional knowledge about the use of plants as a source of medicine has been passed down from generation to generation. Jamu was developed based on the accumulated

experience of social medicine from the time of our ancestors. Traditional medicine (jamu) is growing along with the increasing public awareness of health. The development of traditional medicine is also growing rapidly because it is supported by a scientific approach to prove its effectiveness, safety, and processing techniques.

Health is a very important element of the quality of life in national development. The national health system has established that the goal of health development is to increase awareness, willingness, and ability to live healthy for everyone so that a high degree of public health can be realized - high human resources, as an investment for socially and economically productive development. (Hasibuan, S. et al. 2020)

In addition to health, medicinal plants not only function as edible plants, ornamental plants, and cooking spices, but are also very beneficial for the community. Plants that can be used as medicinal ingredients can be taken from the roots, stems, flowers, fruits, or other parts or the whole plant. Medicinal plants can be used as a first reaction to a disease or as an alternative to modern medicine. This treatment is considered by many as a cheap and safe treatment and will help improve health for those who take it correctly according to its function and efficacy. Therefore, it is very suitable to be planted in the yard of the house so that this medicinal plant can be enjoyed by the family.

Ornamental plants, whether in the form of herbs, shrubs, shrubs, or trees, are deliberately used by the community as garden components, kitchen gardens, room decorations, ceremonies, make-up/clothing, or components all crops grown. Cut flowers can also be included as ornamental plants. The diversity of ethnic groups in North Sumatra makes cultural differences in garden plants, especially the Javanese who live in Medan. Therefore, it is necessary to conduct research on the ethnobotany of Javanese ethnic garden plants in Medan.

II. Research Method

The research was conducted from March to June 2021, in the Javanese ethnic yard in Medan. The tools and materials used include stationery, raffia, tape measure, cameras, and questionnaires. The research was conducted using survey and interview methods. Ethnobotanical data was obtained using a structured interview method (Open ended) related to the benefits and uses. We interviewed 30 general respondents as yard owners. Data on the diversity of plant species in the yard was obtained by recording and documenting all the plant species found. Data analysis was carried out through a descriptive qualitative approach and presented using a table.

III. Result and Discussion

Traditional medicine efforts are a form of community participation and at the same time appropriate techniques that can support health development. The use of gardens as a means of cultivating medicinal plants is known as the TOGA concept (family medicinal plants), namely self-cultivation plants that are effective as medicinal plants or ornamental plants. The practice and use of medicinal plants and ornamental plants in the yard of the house has long been done by housewives. Based on the results of interviews with respondents, obtained 12 types of garden plants are widely planted by ethnic Javanese in Medan. According to the respondents, the efficacy of these types of plants are grouped into 2, namely as medicinal plants and ornamental plants.

Table 1. Types of Javanese ethnic garden plants in Medan

No	Species name		Potency		
	Scientific name	Local Name	Tan. Drug	Tan. Decora	
1	<i>Acalypha hispida</i>	cat tail	✓		✓
2	<i>Alpinia galanga</i>	Galangal	✓		
3	<i>Andropogon nardus</i>	Lemongrass	✓		
4	<i>Averrhoa bilimbi</i>	Starfruit	✓		
5	<i>Curcuma domestica</i>	Turmeric	✓		
6	<i>Curcuma xanthorrhiza</i>	Curcuma	✓		
7	<i>Hibiscus rosasinensis</i>	Hibiscus	✓		✓
8	<i>Orthosiphon grandiflorus</i>	Cat whiskers	✓		
9	<i>Pandanus amaryllifolius</i>	Fragrant pandan	✓		
10	<i>Piper ornament</i>	red betel	✓		
11	<i>Ricinus communis</i>	Distance	✓		
12	<i>Zingiber officinale</i>	Ginger	✓		

The yard should be a center for household members to collect produce and use it to meet their daily needs. The land in the garden has great potential to provide food and nutritious ingredients to meet the needs of the family. The presence of this garden can also reduce household spending on food purchases and contribute to increasing household incomes around the area.

The types of garden plants found based on Javanese ethnicity in Medan can be seen in Table 1 above which are grouped based on their properties, namely as medicinal plants and ornamental plants. The types of plants found were all efficacious as medicine (12 species) and there were 2 types that had both potential, namely medicinal plants and ornamental plants. This can be seen from the needs of families who use plants for their daily needs in traditional (herbal) medicine.

Zingiberaceae is the most widely planted species by ethnic Javanese, namely 4 species, including *Alpinia galanga*, *Curcuma domestica*, *Curcuma xanthorrhiza*, and *Zingiber officinale*. These types are often used by ethnic Javanese as medicinal ingredients which are mixed according to their needs. The ingredients that are often made are jamu turmeric acid for the stomach, ginger/bandrek drink for colds, and can also be used for cooking spices. The concoction is made simply by simply cutting the ginger into small pieces, shaking it, and squeezing it. Then add a little sugar to the juice. After that, the potion is drunk. According to (Nasution et al, 2020) this ginger provides a comfortable and warm stomach effect. This warm feeling is due to the presence of non-volatile derivatives of phenylpropanoid compounds such as gingerols and ginger that make ginger hot or warm.

People have used ginger plants for traditional medicine for generations. Basically, people know the use of the medicine without knowing the chemical composition of the ginger plant, but the use of the drug must be based on the dose to cure the disease. Too much will cause side effects that are not good for health (Nasution et al, 2020). The use of ginger as a food ingredient is associated with the benefits of this type of plant and its economic benefits by the community for consumption. Many people grow the ginger family for cooking spices such as galangal (*Alpinia galanga*).

Hibiscus rosa-sinensis is a type of plant that has the potential as a medicinal plant and ornamental plant according to the respondents. According to Ethnic Javanese in Medan, the hibiscus plant is used as a cold and cough medicine, and people usually use the leaves. Hibiscus flowers are shrubs from the Malvaceae family originating from East Asia and cultivated in tropical and subtropical regions. Hibiscus flowers live outdoors in direct sunlight. The Javanese also consider this plant as an ornamental plant that can be used as a bonsai plant, and has a variety of flower colors that are very beautiful to look at.

Another benefit of hibiscus is the treatment of ulcers, inflammation of the nasal mucosa, heartburn, epistaxis, and mumps (Agustin & Ismiyati, 2015). The flower parts are also used to treat dysentery, urinary tract infections, ulcers, and the onset of menstruation (Harefa, 2020). Hibiscus plants contain flavonoids, the leaves contain saponins and polyphenols, the flowers contain polyphenols, the roots contain tannins, saponins, scopoletin, cleomiscocin A, creomiscocin C (Nur'aini, 2013). According to Sangadji et al. (2017), the compounds involved in the antibacterial activity of hibiscus flowers are flavonoids, alkaloids and tannins.

Acalypha hispida (Cat's Tail) is a medicinal plant that can cure various diseases and heal wounds. The plant which in Latin is named *Acalypha hispida* is a type of plant originating from the West Indies. This plant has flowers that come out of the leaf axils, like a cat's tail. The color of this plant is red like blood. Because of its unique shape, this flower is often used as an ornamental plant in the home garden. According to Moningka (2015) Cat's tail plant contains various important compounds such as phenols, flavonoids, alkaloids, tannins, essential oils and carbohydrates. This compound is known to have special medicinal properties for humans. In general, the cat's tail plant can be used for the treatment of white patches on the skin, hemoptysis, heartburn, dysentery, nosebleeds, burns, intestinal inflammation, intestinal worms, vomiting blood, wound dressings, and laxative urine. The content of flavonoid compounds in this plant can act as antioxidants, antibacterial agents, and antibacterial agents.

Andropogon nardus (Sereh) is one of the best medicinal plants to help treat nausea, and lemongrass is not only beneficial for physical health, but is also used as a cooking ingredient. According to (Nasution et al, 2020) Lemongrass has antifungal, antibacterial, anti-inflammatory, antidepressant, diuretic, analgesic, antipyretic, and antioxidant properties. Brown sandy soil is very suitable as a medium for growing lemongrass.

Pandanus amaryllifolius (Pandan) contains various types of compounds such as polyphenols, flavonoids, glycosides, saponins and alkaloids. This is why pandan leaves are effective in overcoming various diseases (Yunitasari, 2018). Many people use pandan leaves as a safe source of traditional medicine. Pandan leaves have mitotic, apoptotic, and cytotoxic effects that the body needs. Some of these ingredients can work effectively to help the growth of cancer cells (Prameswari & Widjanarko, 2013). In addition, regular consumption of pandan leaf extract can prevent other chronic diseases such as diabetes. However, besides being useful as a medicinal plant, pandan leaves are also used as a natural dye in foodstuffs.

Belimbing Wuluh (*Averrhoa bilimbi*) is very high in active substances such as saponins, tannins, peroxides, formic acid, glucose, calcium oxalate and sulfur. This is the reason why star fruit is widely used as herbal medicine. Starfruit is known to be beneficial for heart and blood vessel health. These benefits can be obtained thanks to the content of antioxidants, fiber, vitamin C, and potassium. Potassium helps lower blood pressure, while fiber can lower cholesterol and blood sugar (Saputra & Anggraini, 2016). However, besides being useful as a medicinal plant, starfruit is also used as a cooking spice.

Ricinus communis (Jarak) is a type of plant that has properties such as relieving stomach pain, overcoming flatulence, and suppressing fever in infants. According to (Kumala Sari, 2006) this plant is often used for its leaves because it contains antioxidants, antibacterial substances, and anti-inflammatory substances alkaloids, astragalin, and kaempferol.

IV. Conclusion

Based on the results of the survey and interviews conducted, it was concluded that there are 12 types of horticultural plants that have the potential as medicinal plants, of which 2 types have the potential as medicinal plants and ornamental plants. According to the Javanese people who live in Medan, the Karanganga plant has great potential to be developed into an effective plant, especially as an ingredient in traditional medicine for the family.

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