Knowledge of Medicinal Plants as Popular Medicine in Bendan Duwur Community, Semarang City

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ABSTRACT

Popular medicine is one of the important sectors in the treatment system in a society. Before deciding to go to the available health services, the community will usually try to cure their illnesses with materials available at home. One ingredient that is widely used in popular medicine is medicinal plants. This medicinal plant is believed to have properties in curing diseases and maintaining health and fitness. This research was conducted in Bendan Duwur Urban Village in Semarang City, using qualitative methods. Observation and interview techniques were applied in this research to obtain detailed data about the knowledge of medicinal plants in popular medicine. The results of this study indicate that there are several medicinal plants that are processed into an herb commonly used in curing diseases. Sources of knowledge of medicinal plants in the community also vary, knowledge transmitted from older generation, media, and others. With the setting of a research landscape in an urban area where there are densely populated settlements, people use flower pots to grow medicinal plants and utilize the narrow and vacant land left in their environment. This research is important because although various modern health services are available, people still use their popular knowledge in maintaining their health.

Keywords: medicinal plants, medicine, herbal, disease.

1. INTRODUCTION

It is widely understood that plants have quality in curing diseases. Various scientific studies have proven the ability of plants in the treatment of health problems. All ethnic groups in the world have knowledge about plants that can be used as medicine. Treatment using plants has historically been practiced for a long time until now. Society as the inheritor of knowledge is still applying it. However, at present, using plants as medicinal properties are only an alternative choice when people experience illness. According to the results of the 2018 Basic Health Research conducted by the Ministry of Health of the Republic of Indonesia, there were 44.3 percent of Indonesia's population still using traditional medicine and of that percentage there were 31.8 percent who used their own ingredients. The amount includes herbs made from plants [1].

The experience and knowledge of medicinal plants in a community can be understood by looking at the local health culture system. According to Kleinman [2], there are at least three health service sectors in society namely, the professional, the traditional, and the popular health sectors. The professional health sector is also commonly referred to as modern health services that are regulated and implemented by work organizations according to the health and medical profession. The second sector is health services carried out by people who have knowledge and expertise in traditional medicine. In Java, for example, people who have this knowledge are commonly referred to as dukun [3]–[5]. The latter is a popular sector in which health services are carried out by individuals and families also see [6]. Local knowledge about the use of plants as medicine in a community appears in the last two sectors, namely the folk medicine sector and family-based health care [7]. This research is more focused on the knowledge of medicinal plants used in the family both as a medicine for the purpose of curing diseases and as a supplement to keep the body healthy. This is because the family is the first place to ask or lay referrals if someone has a
health problem [8]. Some people will usually decide to treat independently at home first, before deciding to continue to other health services. Diseases that are usually cured in this popular treatment are health problems that are still considered mild. It is at this home health services that the medicinal plants are usually used.

To understand the use of medicinal plants by society, we need a knowledge called ethnobotany. This is a multidisciplinary study that connects anthropological knowledge particularly one that discusses ethnic groups and their culture, and botany that specifically studies plants. The study was pioneered first by a scientist named John Harshberger who mentioned it as a study of how ethnic groups used plants traditionally in their daily lives [9]. Although Harshberger introduced ethnobotany for the first time, the father of ethnobotany is Richard Schultes because it is in his hands that studies of human interaction with plants are growing and widely known in the scientific community. His research is very much contributing new knowledge in the medicinal plant ethnobotany, especially in the Amazon Region.

Currently, the study of ethnobotany of medicinal plants not only takes the setting of research in rural areas but also in urban areas. However similar studies have not been done in urban locations [10]. Several studies have been carried out in European city settings such as the Quave et al [11] that explores the use of natural products from plants as an alternative treatment in society. Two other studies are research conducted by Ceuterick et al [12], [13] which focuses on how migrants from outside Europe continue to choose to use medicinal herbs as a tradition brought from their respective countries.

Ethnobotany research of medicinal plants, in particular by exploring aspects of their knowledge is still very important to do. Indonesia as a country that has abundant biodiversity has enormous potential that can be utilized for the welfare of society. This research is also a media in recording the knowledge so that it prevents the loss of knowledge of medical culture as one of the national identities.

Utilizing medicinal plants in the community is important because the drug can be consumed naturally without harmful additives. Economically, this plant product is cheap because it can be grown around the home environment or bought in traditional markets at affordable prices [14]. With the quality contained in it, scientists claim that medicinal plants can increase immunity. Increased immunity in the body can prevent various infectious diseases such as viruses.

The purpose of this study is to understand the ethnobotany knowledge of medicinal plants that are used as family-based medicine (popular medicine) in Bendan Duwur, Semarang.

2. METHODS

This research was conducted during June and July 2020 in RW 4, Bendan Duwur Village, Gajahmungkur Sub-District, Semarang City. The qualitative method was used in this study because it was considered as an effective way of understanding ethnobotany knowledge and family medicine in society.

The participants in this study were residents of RW 4 within the administrative area of Bendan Duwur Village. Housewives who became the main informants numbered 5 people while 4 others were community leaders. Housewives are chosen as informants because mothers usually have responsibilities in domestic affairs, including as a place of initial reference in family medicine. The informants in this study were considered to have knowledge about medicinal plants and also use them in the family. In addition, they also actively participated in growing medicinal plants in their environment.

The main data was obtained from the research field through informant interviews and observation of medicinal plants used or planted by informants. Data collected includes knowledge of medicinal plants, ethnobotany data such as local names of plants, types and uses of these plants, parts of plants used, methods used in the use of medicinal plants, and how to obtain them.

To obtain research data, researchers used guidelines that were utilized during the conduct of the interview and observation process. Another instrument used in this study was the use of a voice recorder to make it easier to record the interview process and photo cameras to capture the atmosphere of the community and the location of the study.

3. RESULT AND DISCUSSION

3.1. Identification of Knowledge About Plants

The results of the study found that there are 43 types of plants that are used as medicinal herbs in family medicine practice. The list of these plants can be seen in the table below:
| Vernacular name      | Botanical name                  | Used parts   | Medicinal uses                        |
|----------------------|--------------------------------|--------------|---------------------------------------|
| Kitolod              | Hippobroma longiflora           | Clear liquid | Sore eyes                             |
| Kumis Kucing         | Orthosiphon aristatus           | Leaf         | Diabetes                              |
| Tapak Doro           | Catharanthus roseus             | Leaf         | Diabetes                              |
| Daun Ungu            | Gropatphyllum pictum            | Leaf         | Haemorrhoid                           |
| Jinten               | Trachyspermum roxburghianum     | Seeds        | Seasoning but also good for body      |
| Cabe                 | Piper retrofractum              | Fruit        | Body aches                            |
| Puyang               | Zingiber zerumbet               | Leaf         | Body aches                            |
| Adas Pulo Waras      | Foeniculum vulgare              | Leaf         | Seasoning but also good for body      |
| Jarak                | Ricinus communis                | Leaf         | Fever                                 |
| Karet Kebo           | Ficus elastica                  | Leaf         | Rheumatic                             |
| Pepaya Jepang        | Cnidoscolus aconitifolius       | Leaf         | Increase breast milk for mother       |
| Sambiroto            | Andrographis paniculata         | Leaf         | Increase appetite                     |
| Kenikir              | Cosmos sulphureus               | Leaf         | Itchy skin, pimple                    |
| Dlingo               | Acorus calamus                  | Rhizome      | Sawanan medicine                      |
| Bengale              | Zingiber cassumunmar            | Leaf         | Sawanan medicine                      |
| Sambang Darah        | Excoecaria cochinensis          | Leaf         | Asthma                                |
| Lavender             | Lavandula                       | Leaf         | Repel Mosquitoes                      |
| Katuk                | Sauropus androgynus             | Leaf         | Increase breast milk for mother       |
| Pyahong              | Anredera cordifolia             | Leaf         | Wound medicine                        |
| Jambu                | Psidium guajava                 | Leaf         | Diarrhoea                             |
| Bidara               | Ziziphus mauritiana             | Leaf         | Cast out evil spirits                 |
| Kencur               | Kaempferia galanga              | Rhizome      | Herbal drink                          |
| Jahe                 | Zingiber officinale             | Rhizome      | Herbal drink, Prevent from COVID-19   |
| Okra                 | Abelmoschus esculentus          | Leaf         | Joints problem                        |
| Keji beling          | Strobilanthes crispa            | Leaf         | Kidney                                |
| Gempur Batu          | Ruellia napifera                | Leaf         | Kidney                                |
| Pegagan              | Centella asiatica               | Leaf         | Cough                                 |
| Temulawak            | Curcuma zanthorrhiza            | Rhizome      | Herbal drink                          |
| Mint                 | Mentha longifolia               | Leaf         | Cough                                 |
| Kamboja              | Plumeria                        | Flower       | Tooth ache                            |
| Pandan               | Pandanus amaryllifolius         | Leaf         | Seasoning but also good for body      |
| Serai                | Cymbopogon citratus             | Whole plant  | Repel Mosquitoes                      |
| Ketela Pohon         | Manihot esculenta               | Leaf         | Low blood pressure                    |
| Sirih                | Piper betle                     | Leaf         | Genital problem for woman            |
| Pepaya               | Carica papaya                   | Leaf         | Increase appetite                     |
| Koro Keling          | Murraya koenigii                | Leaf         | Seasoning but also good for body      |
| Lidah Budaya         | Aloe vera                       | Fruit        | Wound medicine, skin problem          |
| Salam                | Syzygium polyanthum             | Leaf         | Uric acid                             |


| Vernacular name | Botanical name | Used parts | Medicinal uses       |
|-----------------|----------------|------------|----------------------|
| Sirsak          | Annona muricata| Leaf       | Uric acid            |
| Kersen          | Muntingia calabura | Leaf     | High blood pressure  |
| Kelor           | Moringa oleifera | Leaf     | High blood pressure  |
| Insulin         | Smallanthus sonchifolius | Leaf | High blood pressure  |
| Kunuyit         | Curcuma longa  | Rhizome    | Herbal drink, seasoning but also good for body |

In table 1, it can be explained that the knowledge and utilization of plants by the Bendan Duwur community is very varied. It begins with knowledge of the types of plants used, in the forms of shrubs, herb stem plants, tree plants and grass plants. The majority of the use of this plant is on certain parts that are understood to have substances that are useful for the body, namely the flowers, leaves, seeds, fruit and rhizomes.

Each plant has properties in curing the disease, but if classified, the consumption of medicinal plants practiced by the community is intended to cure problems in certain organs such as skin, eyes, teeth, digestive tract, kidneys and lungs. Some informants mentioned that consumption of ginger (Zingiber officinale) can ward off COVID-19 disease which normally attacks the human lung organs.

Besides, there are plants that function to treat special diseases of adults such as gout, diabetes, high blood pressure, and aches, such as cat's whiskers (Orthosiphon aristatus) and tapak doro (Catharanthus roseus) for diabetics. Specifically, for maternal and child health, there are some commonly used plants. For breastfeeding mothers, there is katuk (Sauropus androgynus) and Japanese papaya (Carica papaya). Betel plant species (Piper betle) is understood to be very effective in maintaining the female health.

In Java, there is a local disease which is commonly suffered by babies which are commonly referred to as sawan diseases. Sawan is a condition in which a baby experiences pain for no apparent reason with signs and symptoms of crying loudly, looking hungry and uneasy. Society usually connects this disease due to interference from fine creatures. Bendan Duwur people usually treat this disease by using two types of plants, namely Dlingo (Acros calanus) and Bengle (Zingiber cassumunar). Both of these plants are usually crushed and rubbed on the baby's body. After being swiped several times, the baby will gradually get better. Another plant that is understood by the community to be able to expel evil spirits that will enter the body and interfere with the health of the occupants of the house is bidara (Ziziphus mauritiana).

3.2. Food As Medicine

Plants used to cure a disease are generally used in the form of fresh plants. This plant can be consumed directly after being pounded or sliced, but it can also be through a cooking or boiling process. After the boiling process, the boiled water is usually taken as medicine. Even so there are some plants that are considered good for health, but it does not need to be processed, instead it is made as a daily food. The example of plants medicine used as food is cumin (Trachyspermum Roxburghianum), Adas palu waras (Foeniculum vulgare), turmeric (Curcuma longa), pandan (Pandanus amaryllifolius), Moringa (Moringa oleifera) and okra (Abelmoschus esculentus).

3.3. Plants Availability

Most of the medicinal plants consumed by people in Bendan Duwur are plants that are deliberately planted around the house. These plants are usually planted in the yard of the house. In addition, the community also planted independently by utilizing the empty spaces around the house such as on the side of the alley and even on the edge of the toll road. Plants planted on the side of the alley usually use a rather small container, so it does not interfere with road traffic. In addition, the community also planted using the vertical garden model (verticulture) on the road fence.

Plant care is carried out in mutual cooperation. The community actively participates in taking care the plants by scheduling tasks to water the plants in the morning and afternoon. Plants can be used by people whenever they need. The challenge faced by the community in growing medicinal plants around the house is if a long summer occurs. Although plants have been treated well, but some types of plants are not strong enough to survive in hot weather.

4. CONCLUSIONS

This study aims to understand deeply how people's knowledge about medicinal plants and home remedial practices using these medicinal plants. Identification is important to see in detail the plants that are used. There are 43 types of plants that are used and are distinguished in detail according to the...
part of the plant used, the efficacy, and also how to prepare it. As a community living in an urban setting, Bendan Duwur residents utilize unused land to grow medicinal plants. The goal is that plants can be accessed more easily and cheaply. It is also a means of greening and a media for healthy interaction for community members.

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