

Jamu as Traditional Medicine in Java, Indonesia

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Abstract

"Jamu" is a word in Javanese tribe language, which means the traditional medicine from plants. Today, jamu has been adopted into the Indonesian language and has become a common and popular Indonesian word with the similar meaning. Based on its uses, jamu can be distinguished into five categories of medicines, health-cares, beauty-cares (cosmetics), tonics or beverages and body's endurance or protection. This paper discusses the results on ethno-medicinal plant studies from some areas in Java and also data from the secondary sources and references.

Key-words: jamu, traditional medicine, Java, Indonesia

Introduction

The utilization of plants as traditional medicines called "jamu" in Javanese people has been practiced for a long time. Jamu can consist of a single or a mixture of some medicinal plants. The word of "jamu" now has been adopted into Indonesian language, which means traditional medicines. The Javanese jamu is now used widely throughout the country, even in abroad like in Malaysia and Brunei Darussalam. The modern Javanese jamu is manufactured in many big and modern industries in Java. Those industries have been registered by the Indonesian Government through the Department of Health (HARGONO, 1991). At the present time, jamu is a part of living culture in the country and it is used not only for curing disease but also other uses. According to TILAR *et al.*, (1992), the uses of "jamu" are grouped into five categories as follows;

1. medicine
2. health-care
3. beauty-care
4. tonic and beverage
5. body's protection or endurance

The modern trend of jamu productions is very easy to be consumed and carried. A powdering jamu is an example for nice and simple packing. It is very easily to be sobbed with boiled water. There are many jamus in the form of pills, tablets or capsules. The present condition is the era of jamu development. Now, it has been used to treat some common diseases and therefore it supports to the program of National Health in Indonesia. From the economic point of view, jamu can be consumed from the lower to higher level people, since the prices of jamu are relatively cheaper compared with the

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modern medicines or drugs.

Aims and the Study Areas

The aim of the study is to collect information on ethno-medicine or traditional medicine which is used daily by Javanese people in the villages and commonly called "jamu". The activities include collection of plants which are used as jamu raw materials, all kinds of jamu products from some industries and all information concerning the jamu in the traditional markets. The study areas are at Central Java, *i.e.*, Yogyakarta, Semarang, Surakarta, and Tawangmangu areas; East Java, *i.e.*, Surabaya, Malang, and Lawang areas and West Java, *i.e.*, Sukabumi, Bogor, Banten and outskirts of Jakarta areas. Data are also collected from the secondary sources and the references.

Results

1. History

Knowledge about the traditional medicines in Indonesia is quite extensive because of the great diversity of its local cultures. Although the greater part of the Indonesian knowledge in traditional medicine of plants was influenced by the practice of Javanese tribe in using their traditional medicine of plants, called "jamu".

The origin and development of "jamu" itself is not completely known. The earliest evidence of internal and external use of herbs dates back to the eighth century. In Central Java, on the wall of the Borobudur Temple (the largest and biggest ancient monument in the Southern Hemisphere and the world's largest "stupa"- a dome-shaped of Buddhist Shrine), there was a relief of a "kalpataru" tree. It is a mythological tree which symbolized as lives forever. Beneath the tree, people crushed the ingredients for the preparation of jamu.

People of Javanese tribe write the prescriptions of jamu traditional medicines of plants in the form called "serat" or "primbon". These old documents (ancient scripts) were written on the dry leaves of lontar palm tree (*Borassus flabellifer* L.) usually written in Sanskrit or "Old Javanese" language. Some of those ancient scripts are "Serat Primbon Jampi", "Serat Racikan Boreh Wulang Dalem", "Kalimusada Purate Bolang", "Usada Sari", "Usada Tetenger Beling" and "Usada Tiwas Panggung" (SOEDIBJO, 1989; 1990). All these ancient scripts are kept and belongs to the King of Pakubuwono IX and X in Mangkunegaran Palace, Surakarta, Central Java. There is still another manuscript of Javanese Medicinal plants, *i.e.* "Serat Kawruh Bab Jampi-Jampi Jawi", which published in 1831 (SUTARJADI, 1990). They are all very important Javanese heritages on traditional medicines of plants, since they are consist of many recipes of Javanese jamu traditional medicines.

Jamu is a pure culture of Javanese tribe people. Jamu is a word from Javanese language, which means a traditional medicine plants. Today, the word of jamu is nationally used for all kinds of traditional medicines.

2. Species Diversity of Jamu Materials

BACKER and BACKHUIZEN (1963-1968) mentioned that the total number species of

the flowering plants in Java was about 4,500 species and about 14-16 % of total flowering plants (25,000 - 30,000 species) in Indonesian archipelago. Furthermore, HEYNE (1927) reported that there was 996 species of flowering plants which had been used as traditional medicines in Indonesia, and he mentioned that it would make a totally 1,040 species if including algae, fungi, fern, and gymnospermae species (Table 1). KAZAHARA (1986) published an index of medicinal plants in Indonesia for a Japanese modern pharmaceutical company in Indonesia, P.T. EISAI Indonesia, listed about 7500 species of useful plants and about of 3689 species from all life forms are medicinal plants. ZUHUD *et al.* (1994) mentioned that about 1260 tree species in tropical rain forests of Indonesia are used as medicinal plants.

SANGAT-ROEMANTYO and RISWAN (1990) based on their study in several villages in West, Central and East Java, reported that 151 species of plants have been used as medicinal plants by the peoples. Those all species belong to 125 genera and 57 families. The species of Zingiberaceae, Asteraceae, Fabaceae, Euphorbiaceae and Lamiaceae were the commonly used in the Javanese villages and among them Zingiberaceae (ginger family) was the most important plant family in the making of traditional jamu. Some species of those used as medicinal plants are now getting to be very rare and even endanger species, such as pulosari (*Alyxia reinwardtii* Bl.), jenitri (*Elaeocarpus angustifolius* Bl.), kayu rapet (*Parameria laevigata* (Juss.) Moldenke), kayu kuning (*Arcangelisia flava* (L.) Merr.) and regulo (*Abelmoschus moschatus* Medikus). If, the plant species is endemic to Java, the status condition of species is getting worst, such as padma (*Rafflesia patma* Bl.) which Javanese people use as traditional cosmetics. It is now very difficult to find and becoming a rare species.

Table 1: Total number of Species and Families of Medicinal Plants in Indonesia
(based on HEYNE, 1927)

No.	Group of Plants	Families	Species
1.	Fungi:		
	a. Phycomycetes	1	3
	b. Basidiomycetes	1	5
2.	Algae:		
	Agaricales	3	4
3.	Imperfect fungi:		
	Lichenes	1	1
4.	Fern and allied:		
	Pteridophyta	8	27
5.	Anthophyta:		
	a. Gymnospermae	3	4
	b. Angiospermae		
	1. Monocotyledonae	20	138
	2. Dicotyledoneae	117	858
Total		154	1040

3. Preparation and Serving of Jamu

In the past, Javanese people seemed to sense what they should do to keep their health by the choice of right food and a right way of life. Not only the processed food,

but also they consume the freshly picked leaves or other part of plants to keep their health always in the good condition. In case of illness or diseases, they made certain decoctions from the part of plants, such as leaf, bark, fruit, flower, roots etc. for curing their illness or diseases. The prescriptions of this traditional medicine (jamu) are usually obtained from the village medical practitioner, which is usually called "dukun" (in Java). This term may be similar with "pawang" in Borneo/Kalimantan, Indonesia. The people in villages or rural areas collect the plant materials from their home gardens or surrounding forest.

Based on the preparation manner, jamu can be distinguished into two different groups, those are (1) jamu containing only a single plant species and (2) jamu containing two or more plant species. There are some methods or forms to serve jamu, which they have been practiced in a traditional manner (1, 2, 3, and 4) and a new trend (5). They are as follows:

1. Jamu Segar

"Segar" means fresh, therefore the jamu is made from the fresh plant materials and drink it in the fresh condition. So that, they can be drank as fresh jamu.

2. Jamu Godogan

"Godog" means to boil, therefore "Godogan" means "has been boiled". In Javanese language, the jamu materials are boiled with the water, and the result of boiled water as a decoction is used for curing the diseases. The raw materials can be dried or fresh raw materials and then boil them. So that, they drink the decoction of the jamu raw materials.

3. Jamu Seduhan

"Seduh" means "to sob" in Javanese language, and "seduhan" means that the powder of the jamu raw materials have been sob with the boil water. Therefore, they drink the suspension of the powder of the jamu materials in hot water. "Seduhan" is produced in jamu industries, e.g., "Jago", "Nyonya Meneer" and "Sido Muncul" in Central Java.

4. Jamu Olesan

"Oles" means to rub in Javanese language. Therefore, "olesan" means that rubbing their body to cure the disease by using external traditional medicine or jamu. The forms of this external jamu are called "pilis" and "tapel". Both are like a paste of jamu raw materials and usually in fresh or wet conditions. So that, they put the pilis or tapel on the disorder part of the body.

5. Jamu in form of Pills, Tablets or Capsules

Today, in the modern culture, jamu can be found in the forms of pills, tablets and capsules. Since it is very simple and easy to be consumed, likes other modern drugs or medicines.

Jamu in the form of godogan, olesan, seduhan, pill, tablet and capsule are now very easily found in the drugstores, market, or supermarket, and except for "jamu segar". Jamu segar has to be bought in the special home industries. In Yogyakarta, Central Java, there are two famous jamu segar home industries, those are called "Jamu Jampi Asli" and "Jamu Gingsang". Javanese jamu segar distributes in the whole country of Indonesia where are Javanese people communities. As mentioned later, it is also found in "jamu gendong", but the kinds of jamu are limited (usually only 5 kinds of jamu).

4. Culture and Philosophy of Jamu

In the Javanese culture, they believe that all diseases are able to be cured. The way of their thinking is based on the natural phenomenon, such as "dark and light", "sunrise and sunset", "today and tomorrow", etc. They believe that the God has prepared the medicines for curing of all diseases in nature. Therefore, they are always trying to look for any medicines in the nature. In their life, Javanese people also believe that the period of human life is started from their birth until their death and they can be divided into six stages, those are:

- 1) birth
- 2) 7 months old
- 3) 5-6 years (for girls) or 9-12 years old (for boys)
- 4) adult age
- 5) married
- 6) death

Javanese people believe that at the beginning of each life stage, human being is entering a new challenge. It also means each a new stage of life will face many kinds of dangers or bad lucks. Therefore, they have to do something to against all those kinds of dangers or bad lucks. In the past, there were many kinds of rites and ceremonies that must be obeyed and executed, starting of each stage of their human life. Those are from the birth of baby or even when the baby was still in mother's womb (e.g., "mitoni" that is 7 months old of the pregnant) until their death. People, particularly who live in the rural areas or villages, are still making those ceremonies. In each ceremony, they usually use many kinds of plants (i.e. leaf, flower, fruit, etc.) which were collected in surrounding area of their houses or in the forest. Today, those traditional rites are declining particularly in whom live in the city areas and only a few were carried out. It is due to the influences of the modern cultures.

Similar to other ethnic-groups in the world the knowledge of Javanese traditional medicines is usually simply passed from generation to the next. They only prepared part of plants or a whole plants, single or mixture of plants, for keeping their health, increase body resistant, curing diseases and also other purposes.

Other terms, which they have a closed connection with the Javanese traditional medicines (jamu) are "empon-empon", "botekan" and "jamu gendong". Empon-empon and botekan are now still commonly practiced in the rural areas at the Javanese villages. The similar thing is also practiced with the "jamu gendong". It is now not only known in the many cities in Java but also outside Java. The brief explanations of those terms are as follows:

a. Empon-empon:

"Empon-empon" has two meanings, those are:

1. Empon-empon means home garden or "pekarangan" of medicinal plants. In the rural areas or Javanese villages, each family usually has its own garden for cultivating the medicinal plants. Therefore, they can easily obtain and use any time for curing the diseases or for keeping their body's endurance and health. This home garden usually located at surrounding their houses.

2. Empon-empon also means a group of medicinal plants which it belongs to the ginger family (Zingiberaceae), for examples, such as "kunir" (*Curcuma longa* L.),

"kencur" (*Kaempferia galanga* L.), "jahe" (*Zingiber officinale* Roscoe), and "laos" (*Alpinia galanga* (L.) Willd.). Empon-empon are used for the first aids to help the sick person, usually before the patient is brought to Public Health Center (Pusat Kesehatan Masyarakat) or medical doctor / physician. Some empon-empon species are also used for spices, dyes, and ornamental plants.

b. Botekan:

"Botekan" is a container or a box which made from wood and it is used to store the dry materials of jamu medicinal plants and spices in the kitchen of Javanese people in the villages or rural areas. The size of botekan is usually 40 x 20 x 30 cm³ and it has 4 to 5 drawers inside. Table 2 shows the list of dried plant materials that were usually stored in the botekan container or box.

c. Jamu Gendong

"Jamu gendong" is a fresh jamu in form of serving and selling. Jamu gendong is initially served to whom order this jamu. So that, the seller must bring the jamu, from door to door. Even today, the sellers of jamu gendong can be met, not only in villages but also city areas in Java, and even in other islands of Indonesia, where there were Javanese peoples.

The word "gendong" itself means to bring something on the back of a body. In case of jamu gendong, the fresh jamu is put inside each bottle in bamboo or rattan basket. And they use a long wide shawl called "selendang" for bringing the basket on the back. Therefore, the jamu is called "jamu gendong". The seller is usually a woman, not man and originated from Java. We can recognize 5 kinds of jamu which usually are sold through jamu gendong. Those are as follows:

1. "Jamu beras kencur":

It is used for tonics and relief of body pain after hard working. The main ingredients are "beras", the seeds of the rice plant (*Oryza sativa* L.) and the rhizome of "kencur" (*Kaempferia galanga* L.).

2. "Jamu cabe puyang":

It is used for curing a cold and fever and also for relief of pain. The main ingredients are the fruit of "cabe" (*Piper retrofractum* Vahl.) and the fruit of "puyang" (*Zingiber aromaticum* Val.).

3. "Jamu kunir asem":

It can be used for relief of pain during a woman's menstruation. The main ingredient are the rhizome of "kunir" (*Curcuma longa* L.) and the fruit of asem (*Tamarindus indica* L.).

4. "Jamu paitan":

It is used for appetizer and digestion problems and it composed of many ingredients of medicinal plant species, among of them are "brotowali" (*Tinospora tuberculata* Beumee).

5. "Jamu galian":

It is used for increasing the body's endurance and resistant against the sickness or

diseases. It also contains of many ingredients.

Table 2. List of dried plant materials which stored inside the "Botekan"

No.	Family and Species	Local name	Part used (the uses)
1.	Amaryllidaceae		
	1. <i>Allium cepa</i> L.	bawang merah	tuber (prurient and ache)
	2. <i>A. sativum</i> L.	bawang putih	tuber (prurient, bronchitis, febrifuge, and bactericide)
2.	Apiaceae		
	3. <i>Coriandrum sativum</i> L.	tumba	seed (carminative, relaxation, and aromatic)
3.	Fabaceae		
	4. <i>Tamarindus indica</i> L.	asem fruit	(anti scorbutic and laxative)
4.	Flacourticeae		
	5. <i>Pangium edule</i> Reinw.	klewek	fruit (as spices)
5.	Myristicaceae		
	6. <i>Myristica fragans</i> Houtt.	pala	seed (rheumatism, gastropods)
6.	Myrtaceae		
	7. <i>Syzygium aromaticum</i> Merr. & Perry	cengkeh	flower (tooth-ache, rheumatism and carminative)
	8. <i>S. polyandrum</i> (Wight) Walp.	salam	leaf (carminative)
7.	Piperaceae		
	9. <i>Piper nigrum</i> L.	merica	seed (cold and carminative)
8.	Poaceae		
	10. <i>Cymbopogon nardus</i> Rindle	sereh	leaf (diuretic and cosmetics)
9.	Rutaceae		
	11. <i>Citrus hystrix</i> DC.	jeruk purut	leaf (cough and fever)
10.	Zingiberaceae		
	12. <i>Boesenbergia pandurata</i> Schl.	temu kunci	rhizome (diarrhea and scabies)
	13. <i>Curcuma domestica</i> Val.	kunir	rhizome (itches, diarrhea, lever and purities)
	14. <i>Kaempferia galanga</i> L.	kencur	rhizome (expectorant and somatic)
	15. <i>Alpinia galanga</i> (L.) Willd.	lengkuas	rhizome (rheumatism and curia)
	16. <i>Zingiber officinale</i> Rosc.	jahe	rhizome (cough and carminative)

d. Jamu cekok

In the rural villages, we may still find a kind of traditional jamu, which called "jamu cekok". That is a special fresh jamu for a baby under 5 years old and it is effective for

the increasing of baby and child appetite. "Cekok" means put in something through the mouth by compulsion, since usually the baby or child will reject due to the taste of jamu is not nice (usually bitter). It is a homemade jamu and it is made by initiative of each family for their unhealthy or sick children.

5. Ethnobotanical and Social Aspects of Javanese Jamu

The relationship between human being and his environment has influenced the cultures and traditions of the nations in the earth, such as Indonesian peoples. This relationship has evolved over thousands of years on their experiences and practices. Apart from his early life style as a nomad, human being had begun to exploit his surroundings by gathering plants from the wild in the form of fruits, nuts, roots, leaves and cereals to use for their "food", and it is used to sustain their life. Some of the plants were also collected for the "medicinal" purposes and other for "shelter", particularly in the form of roof tile and other construction materials.

The close relationship between Javanese people and plant species could be shown on their customs, traditions, cultures and their philosophy of life. The special case is how the Javanese people develop their knowledge on using of plants as the source of medicines. Some artifacts, data and evidences of their long and close relationship with the plants are shown, such as:

- a. jamu as their traditional medicine heritage
- b. using of plant materials in their rites and ceremonies
- c. documentation of their traditional medicine, such as in the form of "serat" and "primbon". This artifacts are written in Sanskrit or old Javanese language, by using a dried of lontar leaves as a paper
- d. tradition in making "empon-empon" and "botekan" in every Javanese houses (mostly in the rural areas)

6. Jamu Industries and Its Progress

The progress and development of jamu industries in Java are much supported in connection with the establishment of the Directorate of Traditional Medicine Administration since 1975 by the Indonesian Government through the Department of Health. This Directorate has a duty to guide and stimulate the development of traditional medicine production (SOETRISNO, 1977). To control the standard quality of jamu production, each industry has to have a license given by the Directorate of Drug and Food Control, Department of Health. Today, the totally more than 350 jamu industries have dispersed into 20 provinces of Indonesia (HARGONO, 1991). Besides a domestic consumption, the jamu productions have been exported to abroad, where the total export in 1981 was accounted to be US\$ 7.93 millions and in 1990 to be US\$ 20 millions (DHANUTIRTO, 1990).

Conclusion

The Javanese people have used and practiced of traditional medicines of plants ("jamu"), for a long time. Jamu was not only for curing the illness or diseases (medicines), but also use for other purposes, such as health cares, tonics and beverages, beauty-cares, and body's endurances and protections. We can see jamu in every place in Java and you can see that the local people are still practicing it.

The word of jamu has now been adopted as an Indonesian word, which it means a traditional medicine and has become one of the most popular words in a daily life, in concerning of the traditional medicines. The traditional knowledge of Javanese jamu is really very important as basic study in link with the research for producing of a modern medicine or drugs.

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