

Inventory of Medicinal Plants Used for Pregnant and Postpartum Care by Dayak Tomun in Lopus Village, Lamandau Regency of Central Kalimantan

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**Inventory of Medicinal Plants Used for Pregnant and Postpartum Care by Dayak
Tomun in Lopus Village, Lamandau Regency of Central Kalimantan**

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Abstract

Dayak Tomun is a traditional society living in the Lamandau Regency of Central Borneo. Dayak Tomun has a local wisdom in pregnancy and postpartum care using medicinal plants. Knowledge about traditional medicines was passed down from the ancestors of the Dayak tribe. The purposes of the research were to discover, evaluate, and inventory the medicinal plant used in the treatment and care of pregnancy and postpartum care of women in the Dayak Tomun society. The method used was a semi-structured interview with six key informants and participant observation of professional activities in the treatment of Dayak Tomun in Lopus Villages. As many as 17 species of medicinal plants from 14 families were used as medicinal plants Dayak Tomun society. Most of the findings were from Zingiberaceae (23.53%). Traditional herbal treatment are mostly formulated by using leaves (52%), with the process of boiling (37.50%) and consumed drinking (28%). The traditional pregnancy and postpartum care in Dayak Tomun should be applied and preserved so that local knowledge will not be lost in the next generation. These research provides information about the utilization of medicinal plants used in treatment for pregnancy and postpartum care.

Keywords: Pregnancy, Postpartum, Medicinal Plants, Traditional Medicines, Dayak Tomun

Introduction

Central Kalimantan has a vast forest area and biodiversity, complete with a great support of local knowledge from traditional societies especially that one from the Dayak tribe (Suryadarma, 2005). Traditional knowledge in the society of Central Kalimantan on the utilization of plants was inherited from a long line of ancestors. Such knowledge is usually applied in day-to-day life. The utilization of different types of plants by traditional societies is

associated with the location of the society. The diversity of exploited plant species will thrive because of the experience, skills and local knowledge of traditional society.

One of the indigenous societies with knowledge of medicinal uses of plants is the Dayak Tomun society. Dayak Tomun is a traditional society that resides in the Lamandau District of Central Kalimantan. Dayak Tomun has characteristically lived in the area near river and forests, so it can be said that they live with dependence on nature due to their ancestral beliefs that everything in life comes from nature. Dayak Tomun in the Lamandau always gives thanks to the natural forest environment, for giving them an element of life and peace (Dey & Djumaty, 2017). Dayak Tomun is alive with culture and a unique empirical way of thinking, they believe the spirits of the ancestors and the Gods of their beliefs are in the forest area living among the society.

The Dayak Tomun in the Lamandau is particularly knowledgeable about the utilization of medicinal plants from the forest area where they reside. Dayak Tomun believe good if exposed to the disease, treatment should be done with a medicinal herb that comes from the forest around them. In this society, people believe that the origin of the disease is the spirits of ancestors who formerly inhabited the forest. The utilization of plants in a traditional society environment is essential to the achievement of the equilibrium and the stability of ecosystems that sustain their lives. Such knowledge is known as medicinal plants. Knowledge of traditional community engagement with the environment included in the utilization of the plant, not only for economic activities and traditions but also for traditional medicine (Kandari et al., 2012; Scantlebury et al., 2013; Albuquerque et al., 2006).

One of the unique treatment traditions in Dayak Tomun society is the pregnancy and postpartum care. Pregnant and postpartum women of Dayak Tomun are recommended not to do any of several prohibited things. One of them is eating spicy, sour, meat, black chicken or fish. They also should not bath in rivers. In addition, the traditional society believes in applying such restrictions during pregnancy to protect the health of babies and pregnant women. Traditionally during the process of pregnancy and post-birth, societies use many medicinal plants that are certain to strengthen the health of the baby and the uterus (Ahmed et al., 2018).

Knowledge about the care of pregnancy and nursing mothers after childbirth by any traditional society in having differences in the herbal medicines that are used, and the preparation and consumption of the herbal medicines. These differences are the hallmark of local wisdom of traditional society, which should be maintained and applied. Therefore a study on the utilization of medicinal plants used by the Dayak Tomun society primarily in the Lopus Village of Lamandau Regency Central Kalimantan was important to conduct. Yet the existence

of the study of the utilization of medicinal plants used by Dayak Tomun in traditional treatment makes the reason he had to do deeper studies. Future study is useful to open a discourse Dayak Tomun society of local wisdom about traditional medicine. This study will provide information and databases on traditional knowledge of the local Dayak societies, particularly in Central Kalimantan.

Methods

Study Area

The study of the Dayak Tomun society was conducted in Lopus Villages, Delang, Lamandau Regency, Central Kalimantan, Indonesia from January to March 2018. The research location was at latitude of $1^{\circ}37'56.90''\text{S}$ and longitude of $111^{\circ}2'24.29''\text{E}$ with an altitude between 150 and 250 meters above sea level and a mean temperature of 28.5°C (Figure 1). Vegetation of study location consisted of indigenous grasses, shrubs, and trees.

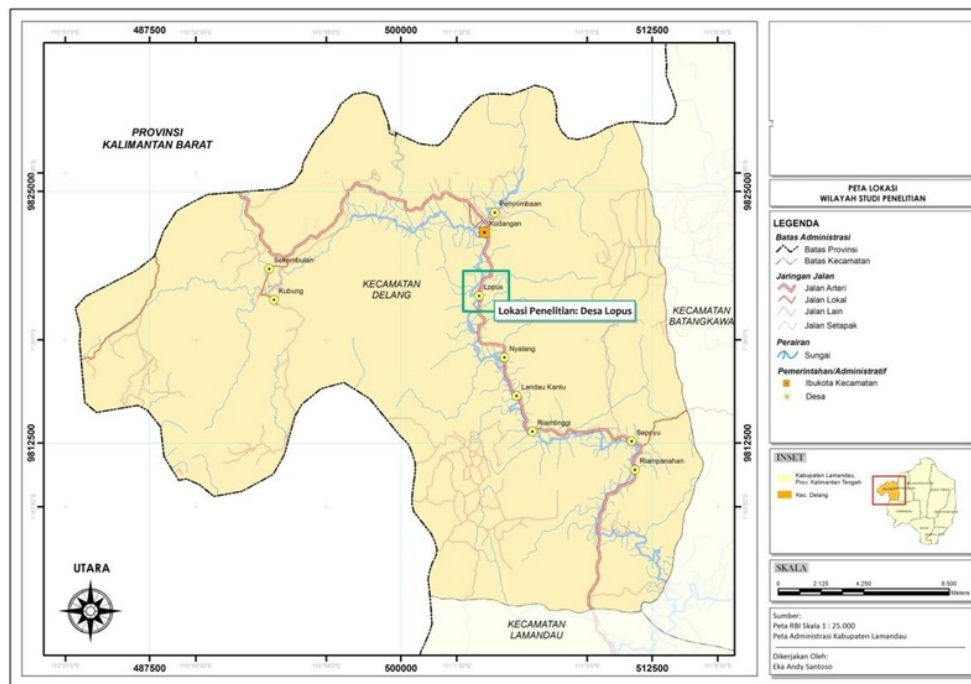


Figure 1. Research Location in the Lopus Villages, Lamandau Regency of Central Kalimantan

Ethnobotanical Data Analysis

The research method employed was the semi-structured interview and participatory exploration with 6 key informant's whose occupations were traditional leader (*mantir adat*), shaman (*poalap*) and midwife (*moalap*). This study used semi-structured interviews with key informants. Selection of key informants were conducted by purposive sampling by considering the customs and character of the original community play a role in the treatment of the traditional Dayak Tomun. Interviews were conducted by providing questions related to knowledge of the medicinal plants utilization in Dayak Tomun including, the diversity of medicinal plants, part of the plant used as a traditional medication as well as the preparation and administration of medicinal plants, to the pregnant and postpartum women.

A participant observation was also conducted to enrich the data obtained from the interview. This exploration aimed to take, an inventory of the plant species and medications used by shaman in the traditional treatment of pregnant and postpartum women. The result of the data obtained in the inventory by using the key determination to identify plants used. The entire results of this study are presented in the form of tabulations and analysis is in the form of a descriptive analysis.

Results and Discussion

Diversity in Medicinal Plants Type

There were 17 kinds of medicinal plants comprising 14 families (Figure 2.). Used in the treatment of pregnant and postpartum women of Dayak Tomun in Lopus Villages. The family that was most widely was Zingiberaceae, which comprised of 23.53 % of all plants used. Plants that fell into this category included *cokur/ kencur* (*Kaempferia galanga* L.), *jahe* (*Zingiber officinale* Rosc.), *kayu panas/ lengkuas* (*Alpinia galanga* (L.) Wild.), and *tetabai/ pacing* (*Costus speciosus* J. Koenig BC.). Study by Hartanto et al., (2014), stated that *Kaempferia galanga* L., *Zingiber officinale* Rosc. and *Acorus calamus* L. Zingiberaceae were used in the treatment of pregnancy and postpartum women in local society of Pangea, District of Kuantan Senggigi Riau. Plants from this family were found in yards around houses in the Lopus Village of Dayak Tomun society.

The plant of Zingiberaceae family are frequently cultivated by people in Central Kalimantan in the courtyards of the houses (Chotimah et al., 2013). The family of Zingiberaceae was Ginger Group of plants known as ginger which has herbaceous characteristics, there is the rhizome that is under the surface of the soil, stem, leaf type relation for a complete and single leaf, flowers shaped organ and unique color. The rhizome of the plant from Zingiberaceae generally has aromatic compounds that characterize each type in its

utilization by local people (Hartanto et al., 2014). The diversity of plant species in this family is due to frequent cultivation of plants for use as medicinal herbs in pregnancy and postpartum women by the shaman.

In traditional societies in Madura *Kaempferia galanga* L. and *Zingiber officinale* Rosc. were used as medicinal herbs to warm up the body for postpartum mothers (Mangestuti et al., 2007). *Kaempferia galanga* L. and *Alpinia galanga* (L.) Wild. by the people of Malay are used as one of the herbs for postnatal baths (Razak et al., 2018). Based on the society, *Kaempferia galanga* L. is known to playing a role in the healing process of reproductions organs of postpartum women, due to the existence of essential oil content that has anti-inflammatory activities (Rosadi et al., 2018). The volatile oil content is also known to be useful for eliminating odors in postpartum womens reproductive organs. The people consider that the body temperature of postpartum mothers will decrease, so many tribes traditionally prepare to give medicine from *Zingiber officinale* Rosc. or *Alpina galanga* (L.) Wild, which is useful to warm up the body and contribute to breastfeeding mother (Manderson, 2003; Ong et al., 2014).

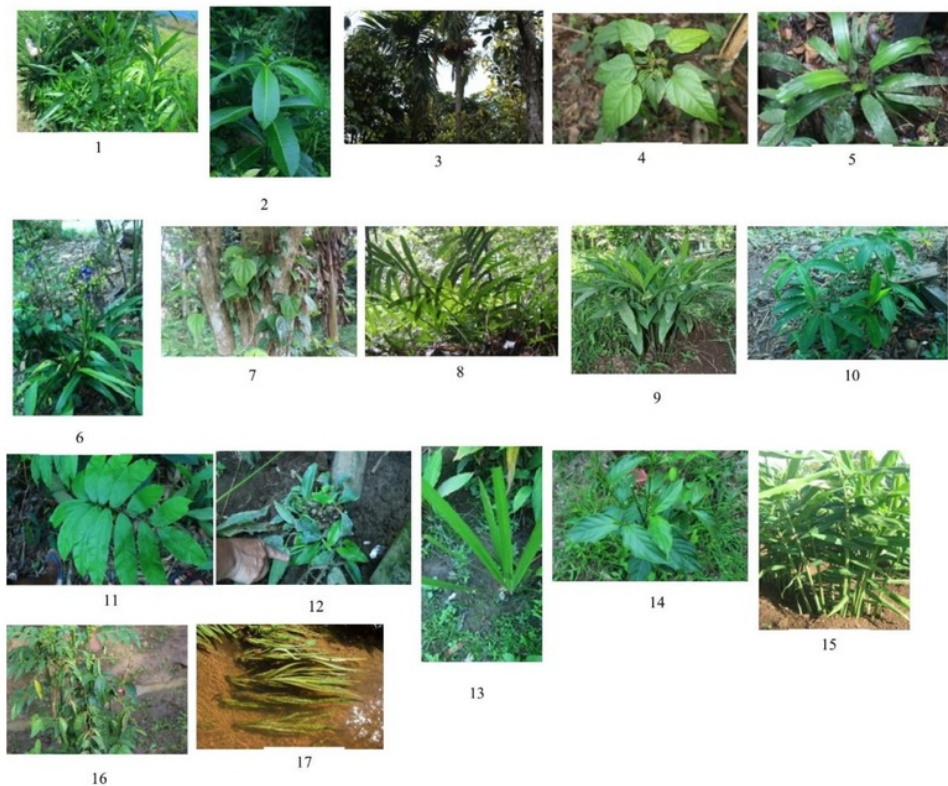


Figure 2. Medicinal Plants for Pregnancy and Postpartum Care in Dayak Tomun

Preparation and Consumption of Herbs as Medicinal Plants

Overall a herbal medicines used by the Dayak community Tomun in the care of pregnancy and postpartum of women there five types (Table 1). Parts of the plant used dor the treatment including leaves, stems, flowers, the fruit is widely used by traditional societies (Kaingu et al., 2011; Duru et al., 2016; Falah & Hadiwibowo, 2017). The composition of the ingredients of the herbal medicines used in the treatment of pregnancy, postpartum and stimulation of breast milk in Dayak Tomun societies made from the leaves (52%), roots (26%), rhizome (13%), stems and fruits (4%). Leaf is the part of plant mostly used by *moalap* and *poalap* because that part is the easiest to obtain compared to the other plants. Leaf is also considered as the easiest to mix due to its soft texture that is aesy to crush.

Leaf was also used by traditional societies of Eastern Uganda in the treatment of pregnant women by 50% (Nalumansi et al., 2017). The composition of the most medicinal herb, used with the leaves (30%) for the treatment of a pregnant woman's health conditions in Menoua Division-West Cameroon (Yemele et al., 2015). Leaves are used as ingredients of herbal medicine because that part easy to be extracted (Savithramma & Rao, 2011).

Preparation of herbal medicine for postpartum women in Dayak Tomun society called "sembrani". Herb *sembrani* mixed use 17 types of medicinal plants, including *Justicia gendarussa* Burm.f., *Alstonia scholaris* Linn , *Areca catechu* L., *Bixa orellana* L., *Mapania cuspidata* (Miq.) Uittien, *Dianella nemerosa* Lam., *Piper betle* L., *Drynaria sparsisora* (Desv.) T. Moore, *Tectaria herpetocaulos* Holttum, *Alpinia galanga* (L.) Wild, and *Costus speciosus* J. Koenig Sm. This herbal medicine is given to the postpartum women with the process of the betel (*pepinangan sirih*) and affixed (*kolas*) on the abdomen and head.

Regarding the plant part used in herbal medicine, leaves are the most widely used by 51.85% (Figure 3.). The most common means of processing applied for the herbal medicine in the Dayak Tomun society was boiling (37.5%) (Figure 4.). The technique of boiling the herb and placing it on the head according to the *mantir adat* as well as the *moalap* or *poalap* is very effective compared with heating and pounding. Boiling is way better than the other techniques, because it will ease the process of discharge of the active compounds in the herb.

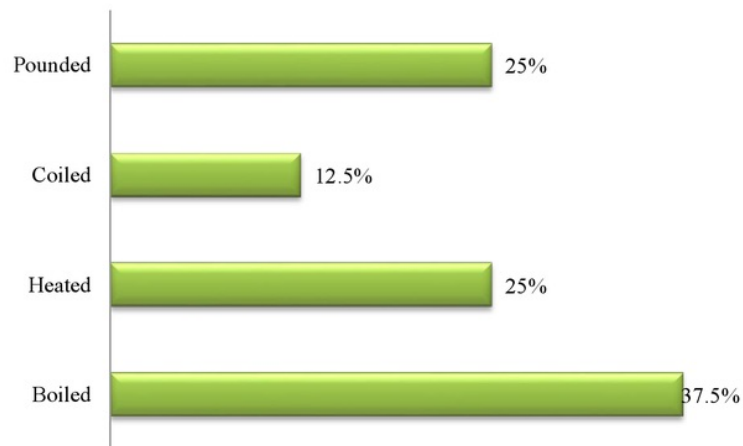


Figure 3. Preparation of Herbal Medicine for Pregnant and Postpartum Women in Dayak Tomun

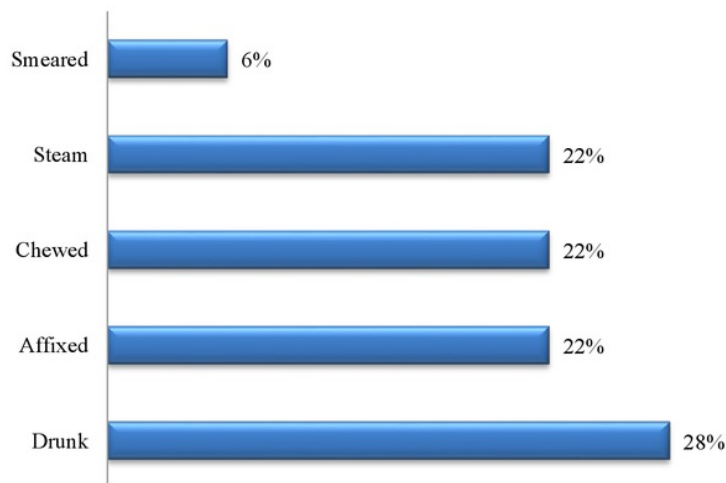


Figure 4. Application of Herbal Medicine for Pregnant and Postpartum Women in Dayak Tomun

Heating by means of boiling is also practiced by traditional Malay society in the treatment and bathing of postpartum women (Manderson, 2003). In traditional societies in Anyi-Ndenye, medicinal plants for pregnant women are prepared by way of boiling, because according to the society, boiling is the preparation method that yields the most easily consumed product (Malan & Neuba, 2011). Similarly, in Mien of Northern Thailand, boiling is the most commonly used method for preparing herbal medicines for postpartum women while, the most commonly used parts of plants are leaves and stems (Panyaphu et al., 2011).

The results of interviews with the traditional leader of the Dayak Tomun society indicated that the consumes as much as 28% of their herbal medicines by a drinking and affixed. Medicinal herbs that are drunk would be easily absorbed by the body, so the healing process will be faster. Maroyi (2013), stated that the consumption of drugs by drinking will give the benefits of a more effective absorption in the digestive system and streamed into the bloodstream. Yusro et al., (2014), on the Dayak Kendayan, Daro, Bukat and Iban in West Kalimantan presentation by way of drinking a lot performed

In traditional societies of Brou, Saek, and Kry pregnant and nursing mothers drink a herbal medicine to protect the fetus, to provide the strength to the pregnant woman and to stimulate the production of the mammary glands in the mother during childbirth (de Boer & Lamxay, 2009). In Mien (Yao) societies in Thailand due to the results of herbs medicine sample preparation will be applied with steam and washed on a mother who gave birth to ten to thirty minutes, once or twice a day with used repeatedly every day until the smell and herb medicinal colors is fade (Panyaphu et al., 2011).

Knowledge of the preparation and administration of medicinal plants for pregnant and postpartum healthcare are acquired through oral tradition. The practice of the use of traditional medicine for expectant mothers and post-birth form of medicinal plants and herbs in the society of confidence and trust in the local culture (Withers et al., 2018). To this day, that kind of knowledge has been kept alive. However, due to the relatively long time needed for treatment using of traditional medicine many herbalists in Dayak Tomun combines the traditional medicine and the medical treatment with help from a doctor or midwives in the hospital and local clinics. Tradition of medicines and the utilization of medicinal plants on pregnant and postpartum in Dayak Tomun society provides a perspective in local knowledge of traditional medicine, plant diversity and the introduction of plant types are utilized. This study provides some information that can be used as a basis for the development of policy related to the management of natural resources as well as preserving the cultural system in local traditional societies.

Conclusion

The Dayak Tomun society in the Lopus Village used 17 species from 14 families of medicinal plants for pregnant and postpartum healthcare. The widely used medicinal plants is from Zingiberaceae with leaves as most frequently used part. Medicinal plant used many processed by way of boiled and served with the way the drunk. Knowledge of preparation and

the administration of medicinal plants is obtained from the ancestors of Dayak Tomun society orally.

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