Pembollo’: a concept of plant-based traditional medicine among kaluppini indigenous people

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Abstract. Traditional healing practice is a common practice among indigenous peoples in Indonesia and strongly influenced by their indigenous health system. They have traditional knowledge about diseases, traditional medicines that they employ in daily life as well as traditional practices concerning maternal and childcare. With a qualitative approach, this study aimed to explore traditional medicine applied among mothers in Kaluppini indigenous people. This study found that Kaluppini people applied traditional medicine to cure their sick children. Mothers give Pembollo’, kinds of traditional medicines, like first aid. Kunyi’ (Curcuma longa), daun paria (Momordica charantia), ca’ ku (Kaempferia galanga), kaju canning (Cinnamomum verum), kariango (Acorus calamus Linn.) and panini (Zingiber Purpereum Roxb) are commonly used as pembollo’. They mixed them with wai (water) or wai nyio (coconut water) or cani’ (honey). Mothers will employ Ma’pasibali, a concept of combining traditional and modern medicines if the children are still sick. The findings indicate that Kaluppini people have a high belief in traditional medicines to cure their children and it is very important to conserve the biological diversity in their indigenous area.

Key Words: traditional medicine, indigenous health system, indigenous people

1. Introduction

Indonesia is one of the countries who have many indigenous peoples. In Indonesia, indigenous peoples are known as masyarakat adat. Over 1,163 different indigenous communities are estimated to live in Indonesia.[1] There is no specific definition of indigenous peoples because it is varied in each region. Considering the diversity of indigenous peoples, The United Nations Permanent Forum on Indigenous Peoples rejected the idea of a formal definition of indigenous peoples [2].

Indigenous people mostly live in a mountainous area or around the forest as their indigenous territory and they depend on it for their livelihood. The forest becomes their economic and food source as well as being the center of their ritual and activities[3]. Indigenous peoples have their distinct customary laws, language, social culture, traditional knowledge, and indigenous health system. Traditional knowledge is a local knowledge that inherited through generations within a community that is unique and applied in their daily life.
Mostly traditional knowledge about traditional medicines is passed down for generations through the oral tradition. Traditional knowledge of plant-based medicine has been taking an important part in the survival and wellbeing of indigenous people. The use of plant-based medicines is a fundamental component within the indigenous health system. Studies found that 70-80% of people around the world use of traditional plants as their medicine[4]. In some communities, the traditional plant-based medicines were also used to cure both physical diseases and diseases that they believe come from supernatural experiences [5].

For many communities, especially indigenous peoples, use plant-based traditional medicine as their first primary health care. Unfortunately, studies that explore more the plant-based traditional medicines among indigenous people in Indonesia are still lacking. Therefore, this study tried to explore plant-based traditional medicines that applied to the children by Kaluppini indigenous people. Study on exploring and documenting traditional knowledge of plant-based medicines was important because it could contribute to the improvement of modern drugs and while still conserving the indigenous traditional health practices.

2. Methods

This study was conducted among Kaluppini people, January to June 2018. Kaluppini people are located in Enrekang Regency, South Sulawesi, Indonesia. Kaluppini is one of the indigenous communities in South Sulawesi that is still held strongly in carrying out their tradition, including their belief on TBA.

Qualitative data were collected using in-depth interviews (IDIs) and focus group discussions (FGDs). The informants of this study were mothers and traditional birth attendants (TBAs). All informants have to have a self-identification as Kaluppini people to ensure that data collected was a piece of genuine information from Kaluppini people. The informants of mothers aged between 15-49 years old while TBAs reported being aged between 60-90 years old with 20–50 years of experience. The informants were recruited using purposive and snowball sampling strategies.

Totally 67 participants involved in this study. We did 33 in-depth interviews were conducted among 25 mothers and 6 TBAs. We also conducted six FGDs only among mothers to get wider information about traditional medicines that they applied to their children. Both IDIs and FGDs were delivered by using the local language and Bahasa Indonesia. The interviews were recorded by using voice recording and notes were taken during data collection.

All recording data were transcribed verbatim and researchers check the recording and read the transcript to ensure the completeness of the information. Data analysis of the transcripts was conducted into three steps: coding process, categorization, and generating themes by using Dedoose, an online qualitative data analysis tool. The local name of the plants used for medication and the preparation methods were noted and we cross-checked the information collected with the other informants. This study had received ethical approval from the Health Research Ethics Committee of the Makassar Health Polytechnic and had obtained written consent from each participant.

3. Results

3.1. Kaluppini Indigenous People

Kaluppini is an indigenous community located in Enrekang District, South Sulawesi. This community still hold strongly in carrying out their tradition and holding rituals. Kaluppini people celebrate 13 mandatory rituals within a year that must be performed in a certain order. They also have a ritual called Pangewaran which is the highest tradition in this community that celebrated every 8 years.[6]

There are also rituals related to mother and children that reflect the process of human life and related to the role of the TBA.

Kaluppini people have their own belief in traditional knowledge related to traditional treatment. They have their own tradition and belief related to rituals and traditional practices using plants in
relation to mother and child health. Traditional birth attendant within the community plays an important role to prepare plant-based traditional medicines and preserves indigenous knowledge.

3.2. The Use of Pembollo'

The use of plant-based traditional medicines to cure sick children were found among mothers in Kaluppin indigenous people. By Kaluppin people, these plant-based traditional medicines were named as pembollo’. Pembollo’ was a mixed of traditional plants that mothers employed to cure their sick children.

Mostly mothers gave their children a Pembollo’ when their children were sick. The first time, mostly pembollo’ was made by the sando pea. Sando pea was an term for a traditional birth attendant in Kaluppin. Sando pea was an old male. Their age was about 60-90 years old. Sometimes, the mother made the pembollo’ by herself at home or bring all local plants needed to the sando pea’s house and let him mix the pembollo’.

Kunyi’ (Curcuma longa), daun paria (leaves of Momordica charantia), ca’ku (Kaempferia galanga), kaju canning (Cinnamomum verum), kariango (Acorus calamus Linn.), and panini (Zingiber Purpereum Roxb) are commonly used as Pembollo’. They mixed them with wai (water) or wai nyio (coconut water) or cani’ (honey).

“If the child has a fever ... we prepare 5 pieces of pariah leaves, one red onion and squeezed it all and then add water so it is not too bitter. We give it to our child to drink. That's called pembollo.” (Mother, 33 years old, IDI)

Some informants stated that they often use kunyi’ to treat their sick children, including giving a pembollo’ to children who are lazy to eat. As a mother stated below:

“Kunyi’ is given to child if the child is lazy to eat. If his tongue is white ... The kunyi’ is grated and mixed it with honey after that give it to the child to drink ” (Mother, 30 years old, IDI)
Kaluppini people also have a package of plant traditional medicines that they believe can treat all kinds of illnesses in children including to treat from supernatural things. The package of traditional plants called pejappi that given by TBA and mush be put near to the children. Most mothers hung pejappi in the children’s swing. Pejappi consists of ca’ku (Kaempferia galanga), kaju canning (Cinnamomum verum), kariango (Acorus calamus Linn.), and panini (Zingiber purpureum Roxb).
3.3. The Role of Sando Pea
TBA is well known as *sando pea* Kaluppini people that play an important role in carrying out some rituals. The role of TBA is strong among the Indonesian people, especially among the indigenous community who still cling to beliefs and customs that have been passed from generation to generation.

*Sando pea* has a crucial role in the indigenous health system to provide *pembollo*. When children were sick, the mother would deliver the children to the *sando pea* together with the plants needed to make *pembollo*. Then *sando pea* would gather the plants and give them back to the mother to give to the children.

“If we go to the *Sando Pea*, sometimes he gives us *pariah* leaves. Then he told us to give it to the child.” (Mother, 40 years old, IDI)

“Sometimes I deliver her to *sando pea* or I just make *pembollo* from *sando pea* by myself” (Mother, 41 years old, IDI)

4. Discussion

This study found that Kaluppini people applied some traditional plants to utilize as *pembollo*. Some plants that mostly used are *Kunyi* (*Carcuma longa*), *daun paria* (*Momordica charantia*), *ca’ku* (*Kaempferia galanga*), *kaju canning* (*Cinnamomum verum*), *kariango* (*Acorus calamus* Linn.) and *panini* (*Zingiber Purpereum Roxb*) are commonly used as *pembollo*.

Studies found that *Kunyi* (*Carcuma longa*) is a local name for turmeric that has been known for thousands of years in many communities. Turmeric is the major source of the polyphenol curcumin. They used it both for medication and culinary needs. For Asian countries, turmeric has been used as medicinal plants and believed it has some benefits such as antioxidant, anti-inflammatory, and anticancer[5]. Even though, some studies found that the curcumin has good efficacy for medication but some other studies also found the side effect of consuming the curcumin such as suffering diarrhea, headache, rash, and yellow stool.[7]

*Daun paria* (*Momordica charantia leaves*) is a local name for the bitter melon leaves. *Momordica* charantia is mostly cultivated in tropical areas such as in Indonesia and other Asian countries. Both fruit and leaves of bitter melon are believed to have many pharmacological advantages such as to treat diabetes and diarrhea that mostly suffered by children. Besides, leaves of bitter melon are good nutritious food that contains minerals such as calcium, magnesium, and iron as well as a good source of B vitamins which is good for the children’s development.[8]

Ca’ku (*Kaempferia galanga*) or aromatic ginger is well known as kencur in Indonesia. Many people in Asian countries believe and use this aromatic ginger for health purpose including among Kaluppini people. Ca’ku/aromatic ginger (*Kaempferia galanga*), *kaju canning/cinnamon* (*Cinnamomum verum*), *kariango* (*Acorus calamus* Linn.) and *panini* (*Zingiber Purpereum Roxb*) are the basic traditional plants called *pejappi*. The plants are given by TBA to mothers and must be put near to the children’s swing. This *pejappi* could also use as a *pembollo*.

The role of TBA to provide *pembollo*, plant-based traditional medicines among indigenous peoples are important. Many studies found that TBA is the one who has traditional knowledge on the use of plants both for medication and for the rituals but it has not documented well. Considering this issue, Kaluppini people should be encouraged to preserve the plants and documenting the methods of managing their plant-based traditional medicines.

5. Conclusion

This study found that Kaluppini people applied traditional medicine to cure their sick children. Mothers give *Pembollo*, kinds of traditional medicines, like first aid. *Kunyi* (*Carcuma longa*), *daun paria* (*Momordica charantia*), ca’ku (*Kaempferia galanga*), *kaju canning* (*Cinnamomum verum*), *kariango* (*Acorus calamus* Linn.) and *panini* (*Zingiber Purpereum Roxb*) are commonly used as *pembollo*. They mixed them with *wai* (water) or *wai nyio* (coconut water) or *cani* (honey). The
findings indicate that Kaluppini people have a high belief in traditional medicines to cure their children and it is very important to conserve the biological diversity in their indigenous area. The future research should be conducted with an ethnobotanical approach to dig more information about traditional medicines among indigenous people.

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