Indigenous knowledge of postnatal mother care using plants by acehnese

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Abstract. Acehnese is one of ethnic of seven others (Gayo, Alas, Aneuk Jamee, Kluet, Singkil,
Tamiang, Simeulu) who are in Aceh Province. Indigenous knowledge is a cultural heritage that
can function as a conservation effort on biological resources. Postnatal mother care is one of
the cultures of the Acehnese people. The aim of this research is to obtain information about
postnatal mother care by the Acehnese. The method was Participatory Rural Appraisal (PRA)
and observation techniques by purposive respondents (midwives (makblien), postnatal mothers,
and mothers aged ≥45 y). The data were collected in six districts of Aceh Province (Banda
Aceh, Aceh Besar, Pidie, Pidie Jaya, Bireun, and Aceh Jaya). The results showed that there
were three to seven treatments in postnatal mother care, including body massage, herbal
remedies for stomach appliances, hot stone (tőetbatee), fog treatment (salee), herb body scrub
(param), bathing herb, and herb pills. The herb pills were the most popular treatment and used
many plants than the others. Otherwise, fog treatment was not popular in postnatal mother care.
Aceh Besar district could be predicted to conserve local knowledge and medicinal plant than
the others.

1. Introduction
Local knowledge possessed by certain ethnic groups is an inseparable part of the formation and
development of local culture. Local knowledge is strongly influenced by the availability of biological
resources and carrying capacity of the environment. Not only cultural development, local knowledge
also affects to fulfil requirements, such as energy, pharmaceutical industry, food, environment, and
product materials [1]. Local knowledge as a result of interaction with local environmental conditions
is usually unique so that it is referred to as local wisdom [2].

The people in Aceh Province has 8 (eight) ethnics which spread in each region, namely, Aceh,
Gayo, Alas, Aneuk Jamee, Kluet, Singkil, Tamiang and Simeulu. The Acehnese people have their own
uniqueness because they are described as an ethnic or mixed ethnic integration into a new ethnic group
called Aceh. The Acehnese are thought to have originated from India and the Middle East, have
similarities with Malays ethnic living in the archipelago and in other Malay Peninsular. In Aceh's

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historical record, it is stated that the Acehnese are included in the Malay clan environment, namely the Mante (Bante), Lanun, Sakai Djakun, Semang (sea people), Senui and others from the Land of Perak and Pahang on the Land of the Malacca Peninsular. In its development, this ethnic has changes composition, especially ethnic Aceh [3].

Traditional medicine using plants is often done by self or through intermediaries (shamans) who are believed to have certain strengths to eliminate disease [4]. In Malaysia, traditional Malay medicine, Traditional Chinese Medicine (TCM) and Indian traditional medicine are widely used by the public. Meanwhile, the WHO Regional Office of the Americas reported 71% of the population of Chile and 40% of the population of Colombia used traditional medicines. In developed countries, the use of traditional medicines is very popular. Some sources mention the use of traditional medicines by residents in France reaching 49%, Canada 70%, Britain 40% and the United States 42% [5]. Acehnese people have used traditional medicine for postnatal mothers care hereditarily. But information about that has not well documented. Therefore this study aims to explore postnatal mother care based on local knowledge of Acehnese people.

2. Method
This study used Participatory Rural Appraisal (PRA) and observation techniques as method that involved a number of purposive respondents [6]. Selection of respondent was done that the expected local knowledge could be obtained. Respondents were divided into three groups, namely, midwives (mak blien), postnatal mothers (ureung madeung), and mothers aged ≥45 y. The number of respondents involved was 1306. The data were collected in six districts of Aceh Province (Banda Aceh, Aceh Besar, Pidie, Pidie Jaya, Bireun, and Aceh Jaya). Each district was randomized to 30 percent of the sub-districts, and in each sub-district was randomised 30 percent villages. Data were analyzed descriptively.

3. Result and discussion
Treatment for postnatal mothers care consisted of three to seven treatments, namely body massage, herbal remedies for stomach appliances, hot stone (tōet batee), fog treatment (salee), herb body scrub (param), bathing herb, and herb pills (Table 1). This treatment lasted during the puerperium period ranging from 40 - 46 d after giving birth. In Malaysian Malay Community, there are six components in the practice of traditional medicine postnatal care. Among them, tuku, body massage, barut, salai, wood root water, abstinence from food and drinking water. All of these components are carried out every day for 40 - 48 d after giving birth. The main purpose of this traditional practice is to improve blood circulation and postnatal recovery [7].

Drinking herb was a treatment carried out in each region so that the treatment was the most popular compared to other treatments. Drinking herb in traditional postnatal medicine consisted of two phases. The first phase was the postnatal maternal phase that would carry out the recovery process. It was assisted by traditional medicines that were formulated with various species of plants. Among of plants used were Pimpenella anisum, Curcuma longa, Zingiber officinale, sometimes combined with egg yolk. This herb was given on the 2nd or 3rd day after giving birth before breakfast in the morning. Essential oils from seeds of P. anisum can stimulate prolactin hormone [8]. Curcumin compounds in the rhizome of Curcuma longa used in herbs can accelerate the healing of uterine wounds and as an anti-inflammatory [9]. The second phase, also called ubat daphu, was a recovery treatment for vital organs just by taking medicinal herbs. This treatment was used in liquid form and also in pill form. This medicinal herb consisted of plants, among of them: Parameria polynesia, Quercus infectoria, Elephantropus scaber, Curcuma longa, Cinnamomum zeylacnicum, Alpinia purpurata, Zingiber officinale, finely ground and then cooked with honey and cowoil. If this herb was made as pill so it was given in stages, namely the first 10 d as many as 10 pillsonly at night; the second for 10 d as many as 10 pills each day, 5 pills in mornings and 5 pills at nights; the last stage on the 21st day to 44 - 46th days postnatal, as many as 6 pills each day, 3 pills in mornings and 3 pills at nights. Postnatal treatment practices in Kerala communities in India, using Datura metel and Azarirachta indica in tablet form,
followed by a mixture of *Morinda umbellata* mixed with coconut milk and sugar that is drunk until the 7th day. Nadikashayam herb is an herb consisting of many plant extracts that are given to treat wounds in vital organs until the 14th day. Furthermore, the ingredients of *Ari idikkunnamaruunu* which is an herb from the extract of *Leucas aspera* are given until the 28th day. *Melmarunnu*'s herb is an herb consisting of *Cuminum cyminum* powder, *Sesamum indicum* and coconut flowering is made into poultices and given for 90 d [10].

| Table 1. Treatment of posnatal mother care in districts and subdistricts of Aceh Province |
|-------------------------------------------------|
| **District** | **Sub district** | **Body massage** | **Herbal remedies for stomach appliances** | **Burn stone** | **Fog treatment** | **Herb body scrub** | **Bathing herb** | **Herb Pills** |
| Bireun | Jeumpa | + | + | + | - | + | - | + |
| | Peusangan Selatan | + | + | + | - | + | + | + |
| | Pandra | - | + | + | - | + | - | + |
| | Jangka | - | + | + | - | + | - | + |
| | Kota Juang | + | + | + | - | + | + | + |
| Pidie | Ulim | + | + | + | + | + | + | + |
| | Pante Raja | + | + | + | + | + | - | + |
| | Trieng Gadeng | + | + | + | + | + | + | + |
| Pidie | Peukan Baro | + | + | + | + | + | + | + |
| | Keumala | + | + | + | - | - | - | + |
| | Titue | + | + | + | - | - | - | + |
| | Tangse | + | + | + | + | + | + | + |
| | Muara Tiga | + | + | + | + | + | - | + |
| | Mila | + | + | + | - | + | - | + |
| | Simang Tiga | + | + | + | - | + | + | + |
| Aceh Besar | Lhong | + | + | + | - | - | - | + |
| | Lho’nga | + | + | + | - | + | - | + |
| | Baitussalam | - | + | + | - | + | - | + |
| | Suka Makmur | + | + | + | - | + | + | + |
| | Kuta Baro | + | + | + | + | + | + | + |
| | Blang Bintang | + | + | + | - | + | - | + |
| | Leupung | + | + | + | - | + | + | + |
| Banda Aceh | Ulee Kareng | + | + | + | - | + | - | + |
| | Jeulingke | + | + | + | - | - | + | + |
| | Meuraxa | + | + | + | - | - | - | + |
| Aceh Jaya | Lamno | + | + | + | - | + | + | + |
| | Krueng Sabe | + | + | + | - | + | - | + |
| | Sampoinite | + | + | + | - | + | - | + |

Salee was not common in postpartum care in the Acehnese tribe. There were only two districts that carry out this treatment, namely in Pidie and Pidie Jaya Districts. In this type of treatment, it was believed that the body of the postpartum mother contains a lot of water, so it is released in this way. This salee activity was carried out on the 3rd day after giving birth for 10 d. This procession was carried out in the morning and evening, the wood used is in the form of charcoal. Salee in traditional medicine after giving birth to Malay, carried out on a bamboo couch beneath which was placed a metal basin containing charcoal or firewood [7].

Body massage treatment was performed by postpartum mothers using head oil. Coconut oil was formulated by using a mixture of several spices and flowers which were then deposited in the soil for 4 d. In the Mahe community in India, massage is carried out using an herb called mukkoottu, a formulation made from coconut oil (*Cocos nucifera*), gingelly oil (*Sesamum indicum*) and turmeric powder (*Curcuma longa*). Massage is done half an hour or 2 h before bathing [11].
Medication for the stomach or also called tapel was an external medicine or topical used in the stomach. Based on the information obtained from respondents, there were several types of ingredients that were used as stomach or tapel medicine. The concoction used is a mixture of betel lime with lime fruit (*Citrus aurantifolia*) which was then distributed in the stomach and covered with castor leaves or betel leaves which were previously wilted or floated. Postpartum care in the Peninsular, Malaysia poultice or stomach medication made from a mixture of lime, lime (*Citrus aurantifolia*) and *Tamarindus indica* or *Zingiber officinale* [12].

Töet batee was one of the treatments performed in post-natal treatment in the Acehnese tribe. The stone that has been heated in a dressing with castor leaves and coated with a cloth was then placed on a rolling basis on the stomach. In traditional Malay treatment practices, using heated tuku is then wrapped in cloth or paper and rolled in a rolling motion over the abdomen. This process is carried out before and after morning bathing [7]. Republic of Indonesia Ministry of Health Number 1076/Menkes/SK/VII/2003 concerning the implementation of traditional medicine, states that traditional medicine is an effort of treatment or care that refers to experience, hereditary skills and education or training applied in accordance with the prevailing norms in society [13].

This herb powder formula was used according to the needs of the postpartum mother. Plant species found in the ingredients included *Oryza sativa*, *Curcuma longa*, *Zingiber cassumunar*, *Zingiber officinale*, *Citrus hystrix*, *Alpina galangal*, *Cananga ordorata*, and several other types of flowers. The param powder was formulated in a simple, round shape like a cake and dried in the sun. The param powder used by postpartum mothers in Gayo was in the form of pastries that can be melted with water and made during the pregnancy of the Gayo postpartum mother, which was applied from the lower body (feet) to the top (face) from the third postpartum day to 44 d [13].

Bathing concoctions were carried out in the morning after the treatment was sorted out body. The ingredients used were 44 types of leaves that have fallen and 44 species of thorny plants which were considered to have medicinal properties. Ingredients boiled with boiling water, after a little warm water, the herb was used in the bathing procession for postpartum mothers. Postpartum mothers in the Fuji countryside, bathe with warm water mixed with wine or warm water from decoction of medicinal herbs, because they have disinfectant properties that prevent infection [14].

Figure 1. Number of midwives, species and family of plant in districts of Aceh Province (*Y* axis: number; *X* axis: districts)

There was a link between the number of midwives in the district with local knowledge of medicinal plants. Aceh Besar District had the highest number of midwives as respondents compared to other districts (Figure 1). Data show that the local knowledge of midwives in Aceh Besar had the most
information about medicinal plants compared to other districts. Local knowledge about plants as medicine is also one of the strategies for plants conservation through their use. Aceh Besar districts is predicted as a district that has a great opportunity for the preservation of medicinal plants compared to other districts.

From the three groups of respondents, the main source of local knowledge about postnatal mother care was obtained from the midwife. All midwives get knowledge from parents for generations. Traditional medicine are used to care the body health by maintaining health, diagnosing and treating physical and mental illness [15]. At present information regarding traditional medicine is a fast step for the development of modern medicine. The development and use of natural medicines or herbal medicines need to obtain strong scientific substance, especially through research and standardization so that Indonesian herbal medicines can be integrated in the national health service system.

4. Conclusion

There were three to seven treatments of postnatal mother care in Acehnese people. The treatments of postnatal mother care were body massage, herbal remedies for stomach appliances, hot stone (töet batee), fog treatment (salee), herb body scrub (param), bathing herb, and herb pills. The herb pills was the most popular treatment and used many plants than the others. Aceh Besar district could be predicted to conserve medicinal plant than the others.

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