Ethnobotany Knowledge on Medicinal Plants of Rejang Descendant Students in Bengkulu

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Abstract: Traditional knowledge of medicinal plants and their use in the present is not only useful for the conservation of cultural traditions and biodiversity only, but also for public health care in the local community. The utilization of medicinal plants in the community continues to grow and passed on to the next generation. In order to obtain data and information on the use of plants by traditional tribal society, the study of ethno botany was conducted. This descriptive study aims to determine Rejang descendant students' knowledge of medicinal plants ethno botany. Data was taken from students of Rejang descendants at one high school in Bengkulu with the total of 29 students. The instruments used were interviews, tests and questionnaires. The results showed that the average score of Rejang descendant students' knowledge in ethno botany categorized as quite well. Based on the cognitive level C1 (remember), C2 (see/understand), and C3 (apply), the scores result on the cognitive level C1 (remember) is the highest when it is compared to cognitive level C2 (see / understand), and C3 (apply).

Keywords: Knowledge ethno botany, medicinal plants, parts rejang.

Indonesia is a country that has a wealth of biodiversity Whitten (in Utami, 2010) reported that the island of Sumatra has more than 10,000 species of higher plants that generally live in lowland forests. Bengkulu Province, which is located in the southern part of Sumatra, also has a wealth of flora that are very abundant. The existence of these plants can be used to meet the interests of life, such as pharmaceuticals, cosmetics, pesticide, fungicide ingredient (Darma *in Utami et al,* 2010). Cultural knowledge possessed by every human being with each other to rely on the knowledge possessed by citizens or supporters. In connection with that, we recognize the existence of civilized society is still very simple and vice versa. Traditional knowledge of medicinal plants and their use in the present is not only useful for the conservation of cultural traditions and biodiversity but also for public health care and drug development in local communities. Traditional knowledge about medicinal plants began to appear when people learn how to use traditional knowledge on medicinal plants (Mesfin, 2013).

Indonesia has about 400 tribes with each ethnic and cultural sub-etnis civilization and knowledge passed down from one generation to the next, including the traditional medicine. Traditional medicine is a part of a nation's culture and have been used by the Indonesian society since centuries ago, started by the development of traditional medicine of traditional herbs in the society, which later developed into a herb that is believed to have certain properties to the human body. The utilization of medicinal plants in the community continues to grow and passed on to the next generation (Wasito, 2011). As stated by Pure (2010), there are now also many herbs that are difficult to find because of a lack of interest in the community in order to cultivate it. General knowledge of traditional medicine is only controlled by the elderly. Today's younger generations are less motivated to gain knowledge from the elderly, and are slowly becoming obsolete. Therefore, In order to obtain data and information on the use of plants by traditional tribal society, the study of ethno botany was conducted.

Bengkulu Province has nine sub ethnic namely, Mukomuko, Pekal, Rejang, Lembak Pasmah, Malay Bengkulu, Serawai, Kaur, and Enggano. Rejang tribe is the oldest and largest ethnic group. According to a research conducted by Yunika (2014), Rejang still uses herbs as medicine in curing some diseases. However, the health facilities have started to adequate and society in general are already using modern medicine concoction plant to cure various diseases. Hence, the types and ways of using plants as medicine by Rejang tribal communities need to be revealed back. Therefore, this study also aimed to know the Rejang descendant students' knowledge on several types of plants used as medicine. In addition, the learning system in school is also studied. It needs to be analyzed because education has an important role in delivering the information and clarifying the various knowledges. If the knowledge is useful then it should continue to be preserved.

METHOD

This research was conducted in August 2016 at a senior high school in Central Bengkulu. Sampling was done through purposive sampling of students. Purposive sampling is used when the sample members were chosen specifically by objective research. The instruments used were a test and questionnaire. A knowledge test in the form of a number of multiple choice questions with five possible answers, the matter was made based on the inventory of plants used as medicine by Rejang communities. Inventory of plants is done through direct interview to the key figures. The questionnaire is used to to dig up some additional information related to the student's knowledge of the use of medicinal plants.

RESEARCH RESULT

Based on interviews with key figures are 39 species of plants used as medicine that has been identified. Some people still use these plants as a first treatment before being taken to a doctor or clinic. Some plants have a dual function, which is the same in its processing plants as medicines that can be used to treat more than one kind of different diseases. In addition, there are also differences in the processing of any type of disease. Data findings of ethno botany knowledge test from the students of Rejang descendant's shows the mean score with an average value of 60.17.

Table 2.1 Summary of the average score calculation of students' knowledge

result	Students (N- 29)	Category
Average	60.17	Pretty good
The maximum value	80	
The minimum value	40	

The score of students' knowledge at level of cognitive C1 (remember)is 74.38. At the cognitive level C2 (understand), the students acquire the average score which is 61.30, and on the cognitive level C3 (apply), the students obtain 32.76 for the mean score.

Table 2.2 means score of each cognition level

No.	cognitive Study	The score every aspect	Category
1	C1 (considering)	74.38	Pretty good

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| 2 | C2 (understand) | 61.30 | Pretty good |
| 3 | C3 (applying) | 32.76 | Not good |

The results of students' responses about sources of information about the use of plants as medicines derived from several sources. Results of student feedback regarding resources students can be seen in Figure 2.1.
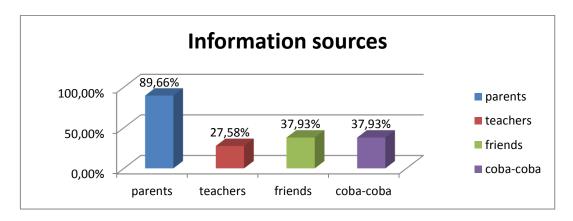

Figure 2.1 Sources of information about the student's knowledge of plants as drug utilization

Knowledge is something that is known to be associated with the learning process. Knowledge is the result of the idea, and this occurred after people perform sensing on a specific object. Sensing occurs through human senses, the senses of sight, hearing, smell, taste, and touch. A large part of human knowledge is obtained through the eyes and ears (Notoatmodjo, 2003). Students receive knowledge about the use of plants as medicine through their senses. Based on student responses were almost half (50%) gain knowledge about the use of plants as medicine to see their parents dispensing medicine.

The results of student responses about some ways students in seeking out knowledge about the use of plants can be seen in Figure 2.2 below
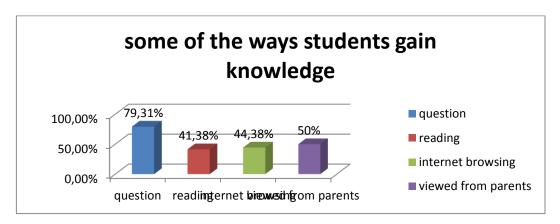

Figure 2.2 some of the ways the students to gain knowledge about the use of plants

Most of the knowledge is acquired from other people. Others inform us, either directly or through the media. In the family, we are gaining knowledge from parents, from infancy to adulthood. Similarly, knowledge about tumbahan use as a medicine, in the descendants of the students obtained rejang of people around him, especially from their parents. Nearly 89.66%

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they get from their parents, from teachers 27.58%, 37.93% from friends and try. According Notoatmodjo (2003), there are several factors that affect a person's knowledge one of them through the mass media. Currently the Internet became the most desirable resources. Approximately 44.83% student response received information through browsing on the internet and via read 41.38%.

Results of student feedback on student interest ethno botany plants can be seen in Table 2.3 below
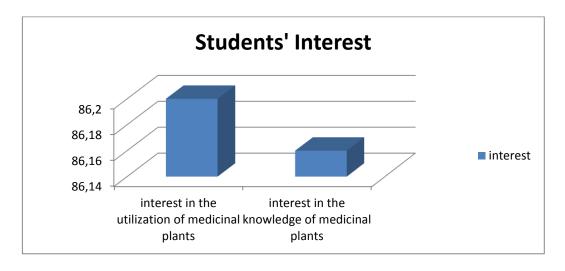

Figure 2.3 student interest ethno botany plant

DISCUSSION

Based on the survey results revealed the cognitive sciences C1 which requires students to know the name of medicinal plants and herbs used body parts (roots, stems, leaves, flowers, or fruit). The plants obtained from an inventory of medicinal plants used by tribal rejang. Based on the results of the study mean score of students' knowledge of cognitive level C1 (remember) obtained a mean value of the descendants of the students rejang 74.38. It shows the ability of the student to know the name of medicinal plants and a part of a plant that is used is quite good. Some studies including research conducted by Pure et al (2012) that the people of the tribe studied had a high level of knowledge on traditional medicine. Zuhud and Yuniarsih in Attamimi (1997) stated that the knowledge and experience of the community regarding the utilization of medicinal plant diversity invaluable for research development activities further.

In the cognitive sciences C2 that requires students to know the benefits of many plants. Based on the results of the study mean score of knowledge of students about the benefits of some of the plants are still quite good. Based on the above results, the student's knowledge about the benefits of the tribe Rejang each plant is higher than with current knowledge about plants and how to cultivate. This is not in line with the research Pure (2012) in Serawai that knowledge of plant species tend to be higher compare with knowledge about the benefits and how to process them. This may be because the student's tribe Rejang better understands the benefits of some drugs based on personal experience. Based on interviews with some students, when they get sick their parents make a concoction of herbs as first aid when ill. If viewed from the aspect of interest, student's rejang have an interest rate that is high enough to use plants as medicine.

In the cognitive sciences C3 questions that were raised about the students' knowledge in processing plants as medicine. Lack of descendants of the students' knowledge about how to

cultivate plants rejang be a medicinal herb decline indicates a lack of knowledge to youth in tribal rejang. It is a portrait that the descendants of the Rejang themselves want to learn about the use of plants as medicine but there are some obstacles in the decline of the old information. Some of the obstacles are indicated to be a slow process because of the pattern of transfer of knowledge transfer in the community. Parents tend to make a potion when there are family members who are sick. The lack of a special time to teach children about the use of plants as medicine. Besides the absence of specific records held parents to bequeath to their descendants. Decrease knowledge usually only been talked alone. The result of interviewing with people who were experted in the treatment of Rejang tribe known that not all of their children would acquire such knowledge. The traditional healers tend to teach specifically to children who have a willingness to learn about how to cure patients with herbs. Additionally seen where the child is also considered the most patient and persevering when invited to cure patients. According to an interview patience must-have for a sick patient does not know the time like day, morning, afternoon and midnight. It needs patience so that when called upon citizens to treat the sick they still serve in any condition.

Based on interviews with several teachers, the classroom teacher teaching biology class does not teach specifically regarding the use of plants as medicine. The material of the plants that have been originated only plants that are known or found nearby. Most of the material from the textbook that were developed by adjusting to the school's neighborhood. For example, how to maintain the preservation of the environment and any conservation efforts we can do. Besides other constraints to teach the use of plants as medicine is contained in every tribe among the languages where there is a difference in the names of plants in each area. Sometimes the students know the name of the region but did not know its Indonesian name. Students not speak the name of the plants, although they know the benefits of these plants. It is also an obstacle in preserving the use of plants in the tribe rejang.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on research that has been done, it can be concluded that there are 39 species of plants used by Rejang society. Nearly 89.66% of the information is acquired from their parents. In general, the average score of students' knowledge stands in the category quite well. For the mean score at C1 level are (recall) and C2 (understand), the category is quite well, and at the cognitive level C3 (applying) the entry is in unfavorable category. In this study, there are several obstacles in preserving knowledge about the use of plants as medicine among which the pattern of decline in knowledge, language differences and lack of learning about the use of medicinal plants in the school.

Suggestion

The first step that should be made in exploiting the potential of ethno botany and conservation of medicinal plants is to save the documented information on how to use the plants based on knowledge derived from local knowledge. In maintaining and preserving their own culture, the process of transferring the knowledge is acquired the best through education. The purpose of education is to preserve and increase work culture itself, with education, we can transfer the culture itself captivate the generations that furthermore, addition of public knowledge about the use of plants as medicine will be better in the future.

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