



## Systematic Literature Review on *Centella asiatica*

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### ABSTRACT

*The theory of the usage of Centella asiatica in medicine among the Malay community has been practiced for a long time. It is a traditional medicine passed down through generations. There were over 40 studies that used Centella asiatica among the Malay community either in research conducted to qualify for an academic certificate, articles published in journals or seminar papers. This qualitative study aims to explore the literature review of Centella asiatica among the Malay community through document analysis and the matrix of Systematic Literature Review (SLR). In doing so, a systematic analysis is conducted on the background, issues or gap pertaining to this study as well as methodology and findings on previous research. This study has found that the study of Centella asiatica among the Malay community was popular in Sabah, Perak, Selangor and Terengganu especially on the major works written by Malay scholars and the qualitative study using content analysis technique was the most preferred method chosen by these researchers. The studies on Centella asiatica among the Malay community should be continued and developed to explore both the obvious and the underlying reasons behind its usage among scholars of Centella asiatica in the Malay community.*

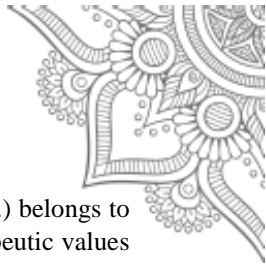
*Keywords: Centella asiatica, traditional medical, Malay community, Systematic Literature Review (SLR)*

### INTRODUCTION

Malaysia is one of the countries that has a high diversity of plants. There are plants that have medicinal properties and has been used as a traditional treatment based on hereditary skills that are still used until now. Besides that, Malaysia is not only has a rich biodiversity and ecosystems, but also ethnic diversity with different and unique traditional and cultural knowledge. In addition, there are several factors that underlie people using traditional medicinal herbs:

- a) In general, the price of factory medicines is very expensive, therefore people are looking for cheaper alternative treatments.
- b) Side effects caused by traditional medicine are small compared to modern medicine.
- c) The content of chemical elements contained in traditional medicine actually become the basis of modern medicine.

Knowledge of traditional medicine is inherited by the community through generations from the ancestors. The current generation is less motivated to explore knowledge from the older generation and gradually began to be abandoned due to several factors. Traditional heritage and traditions will gradually die out. At present, the problem has begun to be overcome by the practice of local knowledge and people's understanding of medicinal plants is increasing. People are starting to understand the use of plants for medicine can actually complement modern treatment. The use of medicinal plants are often the first choice for treatment. Medicinal plants are types of plants that are known to have good efficacy in helping maintain health and medication during illness. Medicinal plants are very closely related to traditional treatments, because the utilization of medicinal plants are not based on clinical laboratory testing, but rather on experience of use. Therefore, there needs to be an effort to document traditional medical knowledge that goes hand in hand with conservation of medicinal plants for knowledge, conservation and welfare of the community.



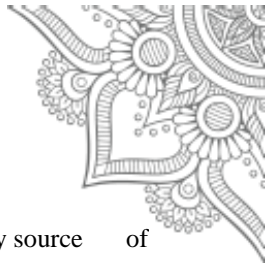
*Centella asiatica* is one of the most commonly used medicinal plant in Malaysia. *Centella asiatica* (Linn.) belongs to the plant family *Apiaceae* (umbeliferae), an important plant with a wide range of traditional, medicinal and therapeutic values (Zahara et. al., 2014) . This herb is found almost all over the world and is utilized as a source of food, beverage and medicine. *Centella asiatica* have been known for many years in treating wounds. The herb is also known as *pegaga* in Malaysia, Indian pennywort and *gotu kola* in Europe and America, *mandookaparni* in India, *pegagan* or *kaki kuda* in Indonesia, *luei gong gen* or *tung chaim* in China. Besides being used as a traditional and alternative medicine, *Centella asiatica* is commonly used in this country as a vegetable and drinks like for tea or juice. It flourishes abundantly in moist areas and is a small, herbaceous annual plant of the sub-family *Mackinlaya*, previously included in *Hydrocotyle*, occurring in swampy areas of Malaysia (James & Dubery, 2009). For many years, *Centella asiatica*, also known as *pegagan* in Indonesia, is widely used in folk medicine to treat a wide range of illnesses. One of the popular uses of *Centella asiatica* aside from its detoxifying action is its potential in wound healing properties (Seevaratnam et. al., 2012).

## RESEARCH DESIGN ON *CENTELLA ASIATICA* AMONG THE MALAY COMMUNITY

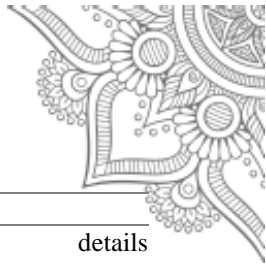
Table 1 presents a Systematic Literature Review covering the year of study, background, issues, methodologies and previous findings related to the study of *Centella asiatica* among the Malay community. It shows the distribution and appeal of this study across the Malay community. The principle of Systematic Literature Review (SLR) has been followed by many modern researchers to see clearly the phenomenon that occurs. In this study the keywords of "*Centella asiatica* among the Malay community" was used to obtain research data. Search engine that is used is Google Scholar. The scope of the search is from 1991 to the year 2018. Out of the 40 documents of the study of the *Centella asiatica* among the Malay community obtained, only 30 documents were accepted for analysis because the remaining 10 documents discussed *Centella asiatica* in other fields and other branches of study.

**Table 1: Systematic Literature Review On *Centella Asiatica* Among The Malay Community**

Research	Background	Issue	Methodology	Previous Finding
Adnan, N. & Othman, N., 2012.	Interrelationship between plants and Malay culture analysis.	Identify common plant in an urban environment.	Qualitative Content Analysis	Botany plant availability and space constraint in Kampong Bahru.
Fadzilah et. al, 2002	Preliminary ethnobotanical survey.	Properly document the traditional vegetable.	Qualitative Content Analysis	Ethnobotanical of traditional salad food (ulam) in Kampung Taun Gusi, Kota Belud, Sabah.
Jamal, J.A., 2006	Principal practices and status of scientific research and development.	Study on how traditional preparation has been transformed through research.	Quantitative Content Analysis	Overview of scientific and technological progress.
Lee, Y.Y., et. al, 2011	Prevalence of Helicobacter pylori infection.	Compare environmental factors that differs in relation to H.pylori.	Quantitative Content Analysis	Identification variable analysis.
Bachok, M.F., 2014	Modulating blood glucose level.	Systematically evaluate the effectiveness of <i>ulam</i> .	Qualitative Content Analysis	Blood glucose level modulated by traditional malaysian vegetables (ulam).
Ahmad, N.I., et. al, 2012	Different ethnic of malaysian adult in residing Selangor.	Pattern of fruits and vegetables consumption.	Qualitative Content Analysis	Consumption of fruits and vegetables among adults.
Khatun, M.A., 2011	Traditional medicinal system in Malaysia.	The use of eight medicinal plants in the traditional medicinal system of Malaysia.	Qualitative Content Analysis	Scientific validation of eight medicinal plants.



Samuel et. al, 2010	Qualitative ethnomedical survey.	Evaluate the potential medicinal uses of local plants.	Qualitative Content Analysis	Dependent of orang asli on primary source of medication.
Ayob, Z., 2012	Potential of tissue cultured medicinal plants in Malaysia.	Update on the various plant regeneration of metabolites in medicinal plants.	Quantitative Content Analysis	Propagation of local medicinal in Malaysia.
Yuskianti, V., 2018	Medicines in the research forest area of Mount Merapi, KHDTK, Kaliurang, Yogyakarta.	The diversity of herbs and their potential medicines.	Quantitative Content Analysis	Relationship between diversity of herbaceous strata vegetation with abiotic environmental conditions.
Foo, J., et. al, 2016	Community's dependence on the plant resources.	Utilitarian of medicinal plants by the community in the West Coast Sabah.	Qualitative Content Analysis	A disease can be treated by various herbs.
Susanti, A.D., et. al, 2018	The diversity of medicine plant.	Known the species of plants as utilizing medicinal plants.	Qualitative Content Analysis	Species of plants that used in medicine.
Seyedreihani, 2015	Assesment of Ulam Raja (Cosmos caudatus) extract	Evaluate the potential use of the herbs in food and beverages.	Quantitative Content Analysis	As a functional ingredient in Beed Patry and Green Tea.
Solin, S.E., 2018	The meaning of traditional foods in the community.	Describes the type, ingredients and ways of serving.	Qualitative Content Analysis	Type of traditional food to the community of Pakpak.
Mohamad, S., et. al, 2011	Study the species used in tradition medicine.	Treat respiratory disease.	Quantitative Content Analysis	Selection of candidate plant species for further phytochemical.
Milow, P., 2011	Characterization of plant resource at Kampung Parit Tok Ngah.	Identify and categorize species of plant in Kampung Parit Tok Ngah.	Qualitative Content Analysis	Specific details on species plants found.
Ong, H.C., et. al, 2011	Traditional medicinal plants used by the Temuan villagers.	Treat various kind of ailments and other health problem.	Qualitative Content Analysis	Total of medicinal plants used by the villagers.
Kodoh, J., et. al, 2017	Ethnic communities in Kudat, Sabah.	Traditional practices of medicinal plant.	Qualitative Content Analysis	Boiling and mashing were the famous method.
Vinolina, N.S., 2017	Secondary metabolic content.	Determine the effect of treatment of the content of centelloside.	Quantitative Content Analysis	Response of Centella asiatica.
Ong, H.C., et. al, 2011	Traditional knowledge of medicinal plants.	No study on the medicinal plants used in this particular village.	Qualitative Content Analysis	Method of preparation that is commonly used.
Ong, H.C., et. al, 2012	Traditional knowledge and usage of edible plants among the Temuan villagers.	Identify the usage of edible plants among the Temuan villagers.	Qualitative Content Analysis	Eaten both raw and cooked are the most method used.
Salleh, N.A., et. al, 2002	Presence of Salmonella spp.	Provide insight into the potential health.	Quantitative Content Analysis	Raw vegetables are found in Selangor.
Milow. P., et. al, 2010	Preliminary survey on plants.	Identify trends in the diversity of plants grown.	Qualitative Content Analysis	The average of species per home garden was seventeen.



Sarono, J., et. al, 2012	The cultivation of plants Pegagan.	Study the management of medicinal plant.	Qualitative Content Analysis	Specific details on <i>Centella asiatica</i> .
Ahmad, F.B., & Ismail, G., 2003	Medicinal plants used by Kadazandusun communities around crocker range.	Ethnomedical survey in Tambunan and Keningau areas of Sabah.	Qualitative Content Analysis	Field collection trips concentrated the village.
Mohiddin, M.Y.B., 1991	Traditional medicinal plants of Brunei Darrussalam.	Identification of the medicinal plant.	Qualitative Content Analysis	Preparation of herbal plant.
Ong, H.C., & Norzalina, J., 1998	Malay herbal medicine in Gemencheh.	Identify species used by the villagers to treat various ailments.	Qualitative Content Analysis	Diversity of plants species.
Jamal, J.A., 2011	Medicinal plant used Postnatal Care in Malay traditional medicine.	Compile preparations and local medicinal plants used.	Qualitative Content Analysis	Preparations used for Postnatal Care in Malay traditional medicine.
Asterini, A., 2016	Local knowledge of coastal ethnic communities on medicinal plants.	Identify the diversity of medicinal plants species.	Qualitative Content Analysis	Knowledge of coastal ethnic communities.
Kulip, J., et. al, 2000	Medicinal and other useful plants of the Lundayeh community.	Preserve the medicinal and other useful plant biodiversity.	Qualitative Content Analysis	Existing indigenous traditional knowledge of the Lundayeh community.

### REVIEW ON *CENTELLA ASIATICA* AMONG THE MALAY COMMUNITY

The systematic literature review as shown in Table 1 previously provides information of previous studies on the medicinal plants among the Malay community, indirectly assisted further studies to examine what has been done while looking for studies that has not been done in this field. As mentioned earlier, the study of medicinal plants among the Malay community is dominated by studies using a qualitative approach, which is 22 out of 30 identified studies. The remaining eight studies are using quantitative approaches. Therefore, this qualitative study can be selected by the researchers if the objective of the study is to explore, compare or understand phenomena on an issue. According to Table 1, there are many researchers who have performed the study of medicinal plants among the Malay community. Based on the background of previous studies, in addition to the study of medicinal plants among the Malay community, it is also carried out based on the following:

- i. To determine the diversity in particular traditional medicinal plants based on community usage.
- ii. To provide specific information about the use of plants that are used as traditional medicinal plants by the community.

Malaysia has an abundant diversity of plants. It has medicinal herbs that can be used by the surrounding community as herbal medicine that has many benefits. Medicinal plants are ingredients that is naturally derived from plants that have been used for generations for treatment based on experience. Traditional medicinal herbs are more popularly called herbal medicine, is a basic of cure besides pharmaceutical drugs. Treatment with medicinal plants is part of the cultural system of the community that the potential benefits are very large in development of public health.

The conclusion of this discussion makes it clear that the reason for choosing a qualitative approach rather than quantitative as a design study of the medicinal plants is based on the dominance of medicinal plants among the Malay community. Although Malay researchers have taken it to an almost high level of influential studies, but this does open up the field to other researchers especially non-Malay researchers to study medicinal plants among the Malay community.



## DISCUSSION

Nowadays, the study of *Centella asiatica*, medicinal plants among the Malay community continues to be explored for more knowledge on its uses and to delve deeper into it. This is likely to be influenced by the opinion that medicinal plants among the Malay community is not merely a discussion on its uses, instead contains communities that apply it in daily life. Studies like these have added a new value to the study of *Centella asiatica* among the Malay community, opening more space for study in this field. Benefits of medicinal plants especially *Centella asiatica* as not just an edible plant but its benefits for improvement of blood circulation and wound healing. All aspects of this study should be carefully researched by academics to produce a product that is useful to all groups of people. Further studies on *Centella asiatica* are expected to produce something for the benefit of the Malay community.

## CONCLUSION

That is the beauty of the study of *Centella asiatica* among the Malay community. Moreover, this study recommends that the study of *Centella asiatica* among the Malay community should be continued to further build on what has been done by other researchers either written or implied.

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