Anti-Diabetic Cure Plants In Sungai Kijang Pride

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Abstract: Diabetes Mellitus (DM) is a disease caused by a lack of the hormone insulin and generally consumes medication using chemical drugs due to the fast response in lowering blood sugar levels. However, the use of chemical drugs in the long term can have a negative impact on kidney performance. The way to minimize the negative impact is to use plants as medicine with the following considerations, that is: easy to obtain and minimal side effects. The tribe in Musi Rawas Utara Regency who still maintains the use of plants as medicine as a hereditary inheritance from their ancestors, namely the Anak Dalam Sungai Kijang Tribe in Sungai Kijang Village, Rawas Ulu District, so it is important to inform the wider community regarding this matter. The specific objectives of the study were to describe the types of medicinal plants, to describe the parts of the plants used, and to describe the processing methods for medicinal plants that have anti-diabetic potential. This research method focuses on the types, parts used, and ways of processing medicinal plants with potential anti-dibates for the Anak Dalam Sungai Kijang Tribe. Retrieval of data using observation sheets, questionnaires, interviews, and documentation. The data analysis used is descriptive with a qualitative approach. The results showed 14 types, namely Marasi, Plant Risih, Akar Timah, Pasak Bumi, Kratom, Akar Kuning, Sekubung, Mendururat, Kemeran, Lenteman, Passion, Okinawa Spinach, Kerisan, and Gembili. The organs used are stems, leaves, tubers, and roots. The processing method is washed, eaten immediately, cut, boiled, dropped into the eyes, drunk, and cleaned of the skin. Based on these results it can be concluded that nature always provides what is needed and that is the main principle of the Anak Dalam Sungai Kijang Tribe.

Keywords: Anak Dalam Sungai Kijang Tribe; Antidiabetic; Medicine plant; Rawas Ulu

Introduction

Based on data released by the International Diabetes Federation (IDF) in 2021, it is known that Indonesia is the fifth largest country, with 19.5 million Indonesian citizens aged 20-79 years suffering from diabetes (International Diabetes Federation, 2021). Diabetes mellitus is a degenerative disease that shows a more intense cell destruction process and a decrease in nerve cell endurance and results in faster cell death (Suiraoka, 2012). There are two types of diabetes mellitus (DM), namely those that arise due to insulin deficiency which are called type 1 DM or Insuline Dependent Diabetes Mellitus (IDDM) and DM because insulin does

not function properly (Barman et al., 2012; Coman et al., 2012). In type 1 DM, the insulin hormone is not produced due to damage to pancreatic β cells, whereas in type 2 DM there is progressive disruption of insulin secretion by pancreatic β cells and a decrease in insulin sensitivity in the target tissue (Bharti et al., 2018).

However, long-term use will have a negative impact on the body. Consuming pharmacological drugs can result in decreased kidney function (Sanjoyo, 2018). The forms of kidney disorders most often caused by drug disorders are interstitial nephritis and glomerulonephritis. South Sumatra Province is a province in Indonesia which consists of several cities and regencies, one of which is North Musi Rawas

Regency where there is an increase in the prevalence of non-communicable diseases, namely diabetes (South Sumatra Provincial Health Service, 2021).

So far, Indonesian people still predominantly use chemical drugs due to the fast response in lowering blood sugar levels, namely in the form of drugs from sulfonylureas, meglitinides, phenylalanine derivatives, biguanides, thiazolidinediones, α-glucosidasae inhibitors (Ministry of Health of the Republic of Indonesia, 2018). Synthetic chemical treatment has the characteristics of originating from the west, using chemicals, drug absorption capacity of 50%-70%, is antibiotic, lowers the immune system, overcomes symptoms, causes side effects and is effective more quickly but is destructive (Hasdianah, 2012). Therefore, to reduce the negative impact of consuming chemical drugs, traditional medicinal plants are one solution. Medicinal plants are types of plants where some or all of the plants are used as medicine, ingredients or medicinal ingredients (Jennifer et al., 2015; F. Lestari et al., 2021; P. Lestari, 2016).

The use of medicinal plants is still widely used by people, especially from the lower middle class. Even from time to time. The use of medicinal plants is experiencing increasing development, especially with the emergence of the issue of returning to nature (back to nature). Meanwhile, many people think that the use of medicinal plants or traditional medicines is relatively safer than synthetic medicines and public knowledge about herbal medicines is higher than medicines. synthetic (Lau et al., 2019). One of the tribes that still uses plants as medicine to treat diabetes is the Anak Dalam Sungai Kijang Tribe, located in Sungai Kijang village, Rawas Ulu District, North Musi Rawas Regency.

Based on the results of initial observations and interviews with the head of the Kijang River tribe, it is known that several plants are used as medicine for diabetes, namely bitter leaf by boiling or chewing directly. This tribe uses plants as medicine because they have been passed down from their ancestors, are easy to obtain, and of course do not cost a lot of money. Treatment using medicinal plants is easy to find around us (Pranata, 2014). Herbal plants can be found growing wild in rice fields, gardens and roadsides so people can take them freely without having to pay money (Cotesea et al., 2017; Pranata, 2014). The plants used by the Anak tribe in the Kijang River are quite abundant but are only known to this tribe, so efforts are needed to provide widespread information to the general public, especially teenagers who barely know that plants can be used as medicine.

The increase in the use of herbal medicines for diabetes mellitus must be accompanied by the discovery of active compounds from several plants. Therefore, this needs to be supported by data which states that Indonesia is a country that has the second highest biodiversity after Brazil, is easy to obtain in the surrounding environment and is relatively low cost, and because of the presence of secondary metabolite compounds in the phenolic group, flavonoids, alkaloids, and steroids in traditional plants (Ebrahimi et al., 2016; Josephat et al., 2019; Julianto, 2019; Zuhud et al., 2014).

The general objectives of this research are: to explore medicinal plants with anti-diabetic potential used by the Anak Dalam Sungai Kijang Tribe, describe the types of medicinal plants, describe the parts of the plants used, and describe how to process medicinal plants that have anti-diabetic potential.

Method

Research methods

This research was carried out in the Anak Dalam Sungai Kijang Tribe, Musi Rawas Utara Regency and was carried out in February-July 2023. This research focused on medicinal plants with anti-diabetic potential. Data collection in this research used several techniques, namely: observation, interviews, and documentation (Figure 1).
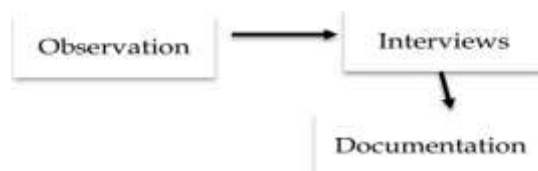

Figure 1. Data collection

Data Collection

Collection and exploration of medicinal plants with anti-diabetic potential will be carried out through direct field observations, interviews and documentation using research tools and field guidebooks. Data collection was collected through observation sheets, interview questionnaires, and documentation (Yustian, 2017).

Data Analysis

The data analysis used was descriptive analysis with a qualitative approach, consisting of the types, parts used, and processing methods of medicinal plants with anti-diabetic potential known to the Anak Dalam Sungai Kijang Tribe, Rawas Ulu District Research design and method should be clearly defined.

Result and Discussion

Results
Description of Observation and Interview Results

This research was conducted at the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District

in July 2023. The aim was to find out the types of medicinal plants used by the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District, and which could later be used. as a source of information and reference for the community in general regarding medicinal plants used by the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District.

Based on the results of research conducted in the Anak Dalam Tribe (SAD) Sungai Kijang Village, Rawas Ulu District, there are 14 types of plants used as medicine, namely Marasi, Tanaman Risih, Akar Timah, Pasak Bumi, Kratom, Akar Kuning, Sekubung, Mendururat, Kemeran, Lentemuan, Gairah, Bayam Okinawa, Kerisan, dan Gembili.

Plant Organs used

Based on the results of interviews with the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District, plant organs that have medicinal properties include leaves, roots, stems and tubers. The percentage of each part of the plant used as medicine by the Anak Dalam Tribe (SAD) community in Sungai Kijang Village, Rawas Ulu District can be seen in table 1.

Table 1. Plant Organs Used as Medicine

Parts used	Amount	Percentage
Stem	3	20%
Leaf	4	26.67%
Bulbs	1	6.66%
Root	7	46.67%
Amount	15	100%

Based on table 1 above, the part of the plant that is most widely used is the root, namely 46.67% with the number 7, because from the results of observations and interviews the root is more widely used because the processing method is simpler and easier to process. Meanwhile, the least used are tubers, namely 6.66% with a number of 1, because according to the results of observations and interviews, the processing of tubers requires quite a lot of time and the processing process is more complicated.

How to Process Medicinal Plants

Based on the results of research conducted in the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District, the percentage of how to process plants with medicinal properties can be seen in table 2. Based on table 2, it shows that the method of processing medicinal plants by the Anak Dalam Tribe (SAD) community in Sungai Kijang Village, Rawas Ulu District, is mostly by boiling, namely 25%.

Table 2. Methods for Processing Medicinal Plants in the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District

Processing Method	Amount	Percentage (%)
Washed	4	16.67
Eat straight away	4	16.67
Cut	1	4.16
Boiled	6	25
Drops into eyes	1	4.16
Drinking	4	16.67
Cleaned from skin	1	4.16
Soaked in salt water	1	4.16
Warm it over the fire	1	4.16
Use it straight away	1	4.16
Amount	24	100%

Discussion

The results of research on medicinal plants found in the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District, amounted to 14 types of plants. Each type of plant has a different function, from interviews and direct observations it was found that almost all the plants found came from the wild without being planted. The use and knowledge of the oat plant has been passed down from generation to generation from the ancestors and the understanding of the Anak Dalam Tribe (SAD) community is only based on direct experience without knowing the substances contained in the plant. Types of medicinal plants used to treat diabetes mellitus are white turmeric, bitter, brotowali, meniran, moringa, gotu kola, neem/intaran, insulin, red ginger, red betel, binahong, secang wood, ciplukan, bitter melon, cherry leaves, and bay leaves (Parisa, 2016; Widyawati et al., 2014).

Based on the results of interviews at the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District, the parts of plants used as medicine by the community include roots, stems and tubers. The most frequently used part of the plant is the root and the second most frequently used part is the leaf. Compounds found in leaves such as tannins, alkaloids, essential oils which are useful as medicine are stored in the tissues of the leaves (Kartika, 2015). Phytochemical screening tests using the decoction method show that yellowwood roots contain alkaloid and saponin compounds which are believed to have medicinal properties (Ministry of Health of the Republic of Indonesia, 2018; Ratnasari et al., 2018). Apart from that, yellow roots are usually used to treat jaundice (Hepar), digestion, worms, strong medicine/tonic, anti-cancer (Futwembun et al., 2019), anti-bacterial (Pratama, 2016), menstrual laxative, and anti-diabetic (Mulyani et al., 2020).

The method of processing plants as medicine carried out by the people of the Anak Dalam Tribe (SAD) in Sungai Kijang Village, Rawas Ulu District is a simple

method, does not require a lot of tools, and does not require a long time. The method of processing plants that is most widely used based on the results of interviews with the Anak Dalam Tribe community is by boiling. The boiling process can remove substances contained in plants and have a very fast reaction when drunk (Gunadi, 2017). Processing plants by boiling can reduce the bland and bitter taste compared to eating them directly, and boiling is more sterile because it can kill germs or pathogenic bacteria (Novianti, 2017). The most dominant processing method is by boiling plant parts (Herman et al., 2019; Susilawati et al., 2021).

The methods of processing medicinal plants in SAD vary greatly, with the variety of various processing methods, it is hoped that this can be an alternative to the use of medicinal plants that exist in nature, and can minimize the use of chemical drugs which can have an impact on health if consumed in the long term and if consumed continuously (F. Lestari et al., 2019). Traditional plants have been used to treat various diseases, including diabetes mellitus, their use is based on empirical factors and scientific evidence (Anugrahini et al., 2021).

Conclusion

Based on the research that has been concluded that nature always provides what is needed and that is the main principle of the Anak Dalam Sungai Kijang Tribe.

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