

## POTENTIAL OF POSTPARTUM MEDICINAL PLANTS OF THE SINDANG KELINGI ILIR TRIBE

Fitria Lestari<sup>1\*</sup>, Yuli Febrianti<sup>2</sup>, Ivoni Susanti<sup>3</sup>

<sup>1,3</sup>Biology Education Study Program, PGRI Silampari University, Jl. Mayor Toha, Air Kuti Village, East Lubuklinggau I District, Lubuklinggau City, South Sumatra Province, Indonesia

<sup>2</sup>Sports and Recreation Physical Education Study Program, PGRI Silampari University, Jl. Mayor Toha, Air Kuti Village, East Lubuklinggau I District, Lubuklinggau City, South Sumatra Province, Indonesia

\*Corresponding Author: Fitriinq@gmail.com

### KEYWORDS

Postpartum, Sindang Kelingi Ilir Tribe, Medicinal Plants

### ABSTRACT

*Postpartum* is the time after giving birth up to six weeks so that the function of the reproductive organs returns to normal and is a vulnerable period because during this period 60% of maternal deaths occur after giving birth and almost 50% of deaths during the postpartum period occur in the first 24 hours after giving birth, including due to complications in the postpartum period. Data released by *World Organization Health* In 2021, the Maternal Mortality Rate (MMR) is still very high, around 810 women die from complications related to pregnancy or childbirth throughout the world every day, and around 295,000 women die during and after pregnancy and childbirth. Although most drug levels in breast milk are low and do not pose a risk to the baby, some drugs can affect the baby's breast milk. Therefore, to reduce the negative impact of consuming modern medicine, use of plants as medicine during *postpartum* can be a solution and alternative in maintaining health and care, especially after giving birth. Based on the results of observations, interviews as well as exploring the environment of the Sindang Kelingi Ilir Tribe, 14 plants were found to have the potential for postpartum use, namely: papaya, kaffir lime, white pineapple, red ginger, sebangun, citronella, tembatu banana, red spinach, red betel, kandis acid, kemenyan, kencur, pepper, and bandotan. Based on the research results, it can be concluded that there are still many plants that have postpartum potential.

### INTRODUCTION

Maternal mortality rate (AKI) in time *postpartum* is a serious health problem in developing countries, including Indonesia, at a high level (Purwati and Alfi, 2020; Airifin, 2023; Sukohar, et al., 2023). *Postpartum* is the time after giving birth up to six weeks so that the function of the reproductive organs returns to normal and is a vulnerable period because during this period 60% of maternal deaths occur after giving birth and almost 50% of deaths during the postpartum period occur in the first 24 hours after giving birth, including due to complications in the postpartum period (WHO, 2021; Bayuana, et al., 2023). Data released by *World Organization Health* In 2021, the Maternal Mortality Rate (MMR) is still very high, around 810 women die from complications related to pregnancy or childbirth throughout the world every day, and around 295,000 women die during and after pregnancy and childbirth (WHO, 2019). This is supported by Maternal Paternal Death Notification (MPDN) data that the maternal death rate in 2022 will reach 4,005 people and in 2023 it will increase to 4,129 people. Therefore, the high increase in maternal mortality rates in *postpartum* become one of the focuses of *Sustainable Development Goals* (SDGs) 3rd point, namely Good Health and Welfare. One of the

sustainable development goals (SDGs) point 3.1 is to reduce the Maternal Mortality Rate (MMR) ratio worldwide to less than 70 which is targeted by 2030. The number of maternal deaths in several regions throughout the world can hamper the country's social and economic development, resulting in unequal access to medical services (WHO, 2019).

The development of health services and the use of modern medicine will certainly have an impact on the loss of local people's knowledge of the functions and benefits of plants as traditional medicine. Apart from that, the current generation's lack of interest in using plants as medicine is caused by several factors including their bitter taste and distinctive smell so most women do not like them (Aladjai, 2019). Although most drug levels in breast milk are low and do not pose a risk to the baby, some drugs can affect the baby's breast milk (Susanti, et al., 2022; Zulfa, et al., 2022). Therefore, to reduce the negative impact of consuming modern medicine, use plants as medicine during *postpartum* can be a solution and alternative in maintaining health and care, especially after giving birth (Saudah, et al., 2023; Lestari and Yunita, 2021; Hegemur, et al., 2023; Khasanah and Andrey, 2023). The oldest tribe in Lubuklinggau City that still uses plants as medicine *postpartum* is the Sindang Kelingi Ilir Tribe which is an “*endogenous ethnicity*” spread across Lubuklinggau City.

Based on the results of initial observations and interviews with the traditional head of the Sindang Kelingi Ilir Tribe, it is known that the use of plants as medicine has been passed down from ancestors, is easy to obtain, the manufacturing process and equipment are simpler, and of course does not cost a lot of money (Wardhina, et al., 2019; Susanti, et al., 2023; Pujihastuti, et al., 2020; Information and knowledge about medicinal plants *postpartum* by the Sindang Kelingi Ilir tribe is quite abundant but has not been explored and documented properly and scientifically, so this research is important to carry out to inform and disseminate the use of local plants of the Sindang Kelingi Ilir tribe for treatment *postpartum* to the general public, especially teenagers, who barely know about the use of plants as medicine due to advances in the use of modern medicine. It is hoped that this research can support the program *Sustainable Development Goals* (SDGs) 3rd using data on medicinal plants *Post Partum* What is obtained can later increase knowledge so that it can minimize the maternal mortality rate (MMR) after giving birth.

The general aim of this research is: to explore potential medicinal plants *postpartum* used by the Sindang Kelingi Ilir Tribe, while the specific objectives are: (a) to describe the types of medicinal plants, b) to describe the parts of the plants used, and (c) to describe how to process medicinal plants that have potential *postpartum*.

## METHOD

### Research methods

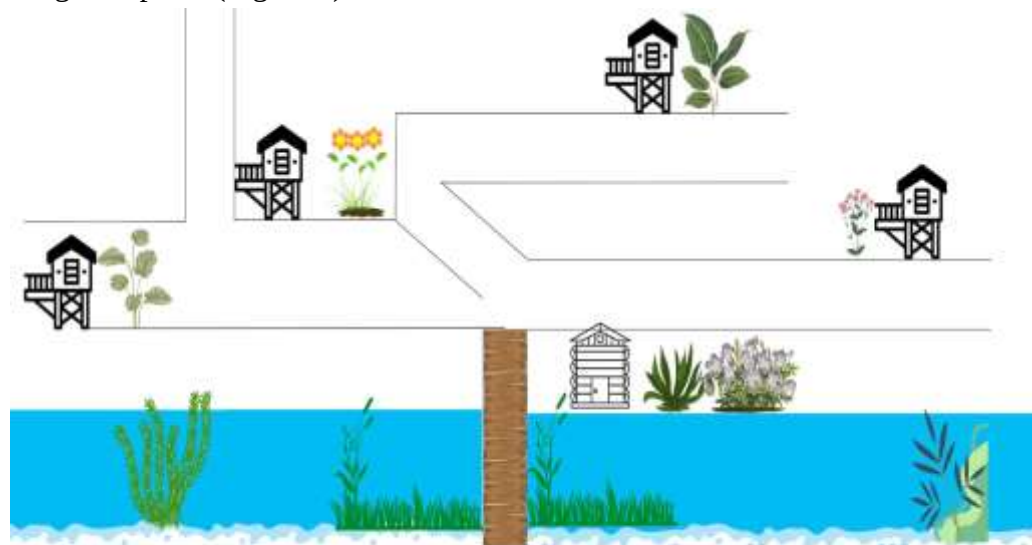
The research method used in research uses exploration methods through exploration techniques by exploring settlements that are characterized by stilt houses and speak 'Col', as well as exploring the forest using existing routes, and/or creating new routes (Tarigan, 2020).

This research will be carried out in the Sindang Kelingi Ilir Tribe, Lubuklinggau City from June to December 2024, focusing on potential medicinal plants. *postpartum* which consists of 1) types of potential medicinal plants *postpartum*; 2) how to process potential medicinal plants *postpartum*; and 3) parts of potential medicinal plants *postpartum* used. Data collection in this research used several techniques, namely: observation, interviews, and documentation.

## Data Collection Procedures

Collection of exploration data on potential medicinal plants *postpartum* consists of:

- a) Through direct observation in the field using the method of exploring the settlements of the Sindang Kelingi Ilir tribe and also exploring the forest using existing paths, and/or creating new paths (Figure 1);



**Figure 1. Illustration of the Exploration Area**

- b) Interviews went through 2 (two) stages, namely: 1) with medical experts, such as health workers, herbalists, and shamans, and 2) with the Sindang Kelingi Ilir tribe community which has a characteristic stilt house and a dialect of the 'Col' language;

Documentation using research tools and field guidebooks. The instruments that will later be taken when going to the field to collect research data are observation sheets, interview questionnaires, and documentation (Yustian, et al., 2017; Abdussamad, 2021).

## Data analysis

The data that has been obtained will later be analyzed descriptively, namely by describing the 'meaning of the data' or phenomena captured by the researcher by showing evidence (Abdussamad, 2021). Analysis of data obtained in the field in the form of potential medicinal plants *postpartum* by the Sindang Kelingi Ilir Tribe, West Lubuklinggau District 1, will later be described as consisting of: 1) types; 2) parts used, such as: roots, stems, leaves, tubers (Lestari, et al., 2023), fruit, seeds, bark; and 3) processing methods, such as: boiling (Lestari, et al., 2023), eating directly, sticking, heating on fire, dissolving in salt water. Data collected from the field will be analyzed and described supported by secondary data sourced from books and journals.

## RESULTS AND DISCUSSION

### Results

This research was conducted in the Sindang Keling illir Tribe in June-July 2024 to find out the types of medicinal plants used by the Sindang Keling illir Tribe, and later it can be used as a source of information and reference by the community in general regarding the medicinal plants used. Sindang Keling illir tribe.

There are 3 things of concern in the field, namely: 1) types of postpartum plants found based on observations and interviews; 2) growing processing methods; and 3) parts used. Based on the results of research in the field by conducting interviews with resource persons, namely traditional birth attendants, traditional heads, and the Sindang Kelingi Ilir tribal community regarding medicinal plants with postpartum potential. It was found that 14 types of plants have postpartum potential. The 14 plants are: papaya, kaffir lime, white pineapple, red ginger, sedunia, citronella, banana tembatu, red spinach, red betel, kandis acid, kemenyan, kencur, pepper, and bandotan (Table 1)

**Table 1. Types of Postpartum Medicinal Plants in the Sindang Kelingi Ilir Tribe**

| No | Plant Names                                                    |               | Parts Used | Processing Method                                                                            | Picture                                                                               |
|----|----------------------------------------------------------------|---------------|------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|    | Common Name                                                    | No Local      |            |                                                                                              |                                                                                       |
| 1  | Pineapple<br><i>Ananas comosus</i><br>(L.) Get it.             | girls         | Fruit      | Wash it, eat it straight away                                                                |   |
| 2  | Ladle<br><i>Miconia crenata</i><br>(Elect.)                    | I am fighting | Fruit      | Wash it and eat it straight away                                                             |  |
|    |                                                                |               | Leaf       | Washed, take 3 or an odd count of leaves, then boil until 3 glasses of water becomes 1 glass |                                                                                       |
| 3  | Fragrant lemongrass<br><i>Cymbopogon nardus</i> (L.)<br>Randle | Hi Mambu      | Leaf       | Boiled and used as a bath                                                                    |  |

|   |                                                |                 |         |                                                                         |                                                                                       |
|---|------------------------------------------------|-----------------|---------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 4 | Red Spinach<br><i>Amaranthus tricolor</i> L    | Brother Spinach | Leaf    | Boil it and drink the water which has reduced from 3 glasses to 1 glass |    |
| 5 | Banana Stone<br><i>Musa balbisiana</i> glue    | Batu Banana     | Heart   | Boiled and cooked                                                       |    |
| 6 | Red Betel<br><i>Piper Crooked</i> Ruiz & Pav   | See' Abang      | Leaf    | Boil it and drink the water which has reduced from 3 glasses to 1 glass |   |
| 7 | Asam Kandis<br><i>Garcinia xanthochymus</i>    | Asam Kandes     | Fruit   | The fruit is boiled, then used as a bath                                |  |
| 8 | Incense<br><i>Styrax benzoin</i>               | Savory          | Bark    | Boiled and made into a bath                                             |  |
| 9 | Aromatic ginger<br><i>Kaemferia galanga</i> L. | Czech           | Rhizome | Wash it clean and eat it straight away                                  |  |



|    |                                                             |                |         |                                                                             |                                                                                       |
|----|-------------------------------------------------------------|----------------|---------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 10 | Black pepper<br><i>Piper nigrum</i> L.                      | Sa'ang         | Fruit   | Roasted, mashed, then mixed with egg and honey, then drink it straight away |    |
| 11 | Bandotan<br><i>Ageratum conyzoides</i> Linn                 | Beratdotan     | Leaf    | Boil it, then drink the water which has reduced from 3 glasses to 1 glass   |    |
| 12 | Red Ginger<br><i>Zingiber officinale</i> var. <i>Rubrum</i> | Ginger Brother | Rhizome | Grated, extract the essence, and drink                                      |   |
| 13 | Lime<br><i>Citrus hystrix</i> D.C                           | Jerok Pu'ut    | Fruit   | Wash it, take the water, and drink it straight away                         |  |
| 14 | Pawpaw<br><i>Carica papaya</i> L                            | Warehouse      | Leaf    | Washed, Boiled, The water is drunk                                          |  |

## Discussion

Based on the results of observations and interviews with traditional heads, traditional birth attendants, and the Sindang Kelingi Ilir Tribe community, 14 types of plants were found, namely: papaya, kaffir lime, white pineapple, red ginger, sedunia, citronella, banana tembatu, red spinach, red betel, tamarind kandis, kemenyan, kencur, pepper, and bandotan. 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 potential postpartum medicinal plants has been passed down from generation to generation from their ancestors and the understanding of the people of the Sindang Kelingi Ilir tribe is only based on direct experience without knowing the substances contained in these plants.

There are various kinds of postpartum medicinal plants in the Sindang Kelingi Ilir Tribe are very varied. With this variety of various processing methods, it is hoped that this can be an alternative 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 (Lestari and Ivoni, 2019).

This plant which has postpartum potential certainly contains certain compounds, the details are as follows:

a. Pawpaw (*Load papaya* L.)

Papaya leaves (*Load papaya* L.) also known as kates or telo in Java, is generally used as food in the form of vegetables or other processed products. Papaya leaves are often used as a medicine for hypertension, malaria, malnutrition, and urinary tract disorders. Other research states that papaya leaf extract contains triterpenoids and micronutrients such as vitamin A, vitamin C, vitamin E, vitamin B12, and  $\beta$ -carotene. Papaya leaves also contain flavonoids (kaempferol, manghaslin, and klitorin), saponins, alkaloids (karpain, pseudocarpain, and dehydrokarpain I and II), glycosides, phenols (ferulic acid, caffeic acid, and chlorogenic acid) and the enzyme papain (Irawa, et al., 2020).

b. Lime (*Citrus hystrix* D.C

Kaffir lime leaves contain tannins, steroids, triterpenoids, and essential oils. Kaffir lime peel contains saponins, tannins, and essential oils. Kaffir lime leaves are also used as the main ingredient in traditional medicines. Kaffir lime leaves contain alkaloids, polyphenols, essential oils, tannins, and flavonoids. Kaffir lime has pharmacological effects as an antiseptic and antioxidant (Siregar, et al. 2020).

b. Red Ginger (*Zingiber officinale was Rubrum*)

Red ginger rhizomes contain various types of nutrients that are beneficial for the body, including energy, carbohydrates, fiber, protein, sodium, iron, potassium and vitamin C. Apart from that, ginger rhizomes also contain magnesium, phosphorus, zinc, folate, vitamin B6, vitamin A, riboflavin, and niacin (Sari and Nasuha, 2021).

c. Pineapple (*Ananas comosus* L. Take)

The nutritional content contained in pineapple includes vitamins B6, B1 and vitamin C as well as folic acid. The sugar content is quite high and has the highest ability to act as an antioxidant to fight free radicals. Free radicals are unstable and very reactive, that is, they tend to react with other molecules to achieve stability (Mappa, et al., 2021).

d. spoon (*Miconia crenata* Vahl)

One of the plants that has medicinal properties is seangkat or Harendong bulu (*Clidemia hirta*). Harendong bulu (*Clidemia hirta*) is a plant that is often found in Maluku. The chemical contents found in harendong bulu include tannins (catechol and pyrogallotannin), dioxyanthraquinone, steroids, saponins, glycosides, and phenols, which of these contents can function as an antibacterial (Pelu and Djarami, 2022).

e. Lemongrass (*Cymbopogon nardus* L. Randle)

Citronella has active compounds that can be used for treatment such as antibacterial, antifungal, and anti-inflammatory. This inhibitory ability is due to the content of saponins, flavonoids, polyphenols, alkaloids, and essential oils found in citronella leaves (Mayasari and Safitri, 2019).

f. Banana Stone (*Musa balbisiana* glue)

The content of flavonoids, steroids, polyphenols and tannins is found in fresh and extracted stone banana blossoms, this is based on phytochemical tests that have been carried out by previous researchers. The high amount of antioxidant activity possessed by the stone banana flower mostly comes from anthocyanin compounds which belong to the flavonoid and polyphenol group. Flavonoid and

polyphenol compounds have the potential to stimulate the hormones prolactin and oxytocin so that there will be an increase in breast milk production (Okinarum et al., 2020).

g. Red Spinach (*Amaranthus tricolor* L)

Red spinach leaves (*Amaranthus tricolor* L.) have chemical compounds in the form of alkaloids, flavonoids, saponins, quinones, tannins and steroids (Isrul, et al., 2020).

h. Red Betel (*Piper crocatum* Ruiz & Pav)

Red betel leaves contain phytochemical compounds, namely essential oils, alkaloids, saponins, tannins and flavonoids. Other chemical constituents found in red betel leaves are hydroxycavicol, kavikol, kavibetol, carvacrol, eugenol, p-cimen, cineol, karyophyllene, estragol cadimen, terpenes, and phenyl propanoids (Nisa, et al., 2014).

i. Candic Acid (*Garcinia xanthocymus*)

Kandis acid in Indonesia is mostly found in Sumatra and Kalimantan. Kandis acid (*Garcinia*) contains secondary metabolite compounds such as triterpenes, flavonoids, xanthones, and phloroglucinol (Winata, et al., 2023).

j. Incense (*Styrax benzoin*)

The main chemical components of Sumatran Frankincense are Cinnamic Acid and Benzoic Acid. Sumatran Frankincense also contains many phenylpropanoid derivative compounds such as benzaldehyde, vanillin, styrol, phenyl propyl cinnamate, also contains benzoeresinol ester, coniferyl alcohol ester of cinnamic acid and benzoic acid. (Harahap and Marpaung, 2018).

k. Aromatic ginger (*Kaempferia galanga* L)

The chemical contents of Kencur rhizomes are starch, minerals, flavonoids, alkaloids and essential oils. Kencur rhizome contains 1.0-2.50% essential oil consisting of cineol, methyl kanyl acid and penta decaan, cinnamic acid, ethyl ester, borneol, kamphene, paraeumarin, anisic acid and alkaloids. Apart from that, there are also sinamal, aldehyde, motile p-coumaric acid, annamic acid, ethyl acetate and pentadecan (Primawati and Jannah, 2019).

l. Black pepper (*Piper nigrum* L)

Black pepper fruit contains alkaloids and essential oils with felandrene, dipentene, karyopylene, entoxylene, and limonene components. White pepper fruit contains alkaloids such as piperine, cavitine and methylpyrroline, as well as essential oils, fats, and starch (Hikmawanti, et al., 2016).

m. Bandotan (*Ageratum conyzoides*)

Bandotan (*Ageratum conyzoides*) It has been widely used as a traditional medicine to treat wounds. The active compounds found in *Ageratum conyzoides* include alkaloids, flavonoids, tannins, glycosides, and terpenoids which work as antibacterials for both gram-positive and gram-negative causes of open wounds, chromene, essential oils, coumarins, sterols, glycosides and saponins which have been proven to have anticancer activity. (Atisha and Soraya, 2018; Adelya, et al., 2022).

The methods of processing medicinal plants in SAD vary greatly, with the various kinds of processing methods, it is hoped that this can be an alternative 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 (Lestari and Susanti, 2019).

## CONCLUSION

Based on the research that has been carried out, it is known that the main sources of treatment with postpartum medicinal plants from the Sindang Kelingi Ilir Tribe were found to be 14 types, namely Marasi, Risih Plant, Tin Root, Pasak Bumi, Kratom, Yellow Root, Sekubung, Mendururat, Kemeran, Lenteman, Passion, Okinawa Spinach, Krisan, and Gembili. This indicates that plants can be an alternative for treating various diseases.



## Acknowledgments

The team would like to express their thanks to DRTPM Kemenristekdikti No. 1122/LL2/KP/PL/2024 as grant funders, traditional heads, and the Sindang Kelingi Ilir Tribe community for the permission and time given to the team while collecting data in the Sindang Kelingi Ilir Tribe.

## References

- Abdussamad, Z. (2021). *Qualitative Research Methods*. Makassar: CV. Syakir Media Press.
- Adelya, L., Pisga, C.D., Zerlinda, C.A., Radhita, T.P. W., Mase., Dewi, S., and Florentinus, D.O.R. (2022). Potensi Herba Bandotan (*Ageratum conyzoides* L.) Sebagai Agen Antikanker Payudara. *Cendikia Journal Of Pharmacy*, vol 6(1), 1-12. <http://cjp.jurnal.stikescendekiautamakudus.ac.id>
- Aladjai, E. (2019). *Grandma's Remedy (Traditional Postpartum Care Experience of the Banggai Tribe)*. Central Sulawesi: Bios Library.
- Arifin, Z. (2023). Implementation of Health Services in Reducing Maternal Mortality Rates. *Forikes Voice Health Research Journal*, vol 14(1):6-10. <http://dx.doi.org/10.33846/sf14102>
- Atisha, S.A., and Soraya, R.M. (2018). REVIEW : HERBAL BANDOTAN (*Ageratum conyzoides* L.) AS A TREATMENT FOR OPEN WOUNDS. *Supplement Pharmaca*, Vol 16(3), 116-121. <https://jurnal.unpad.ac.id/farmaka/article/view/17419>
- Bayuana, A., Arum, D.A., Dwi, A., Devy, L.N., Selawati., Nur, S., Rini, S., and Revi, A. (2023). Complications in Pregnancy, Childbirth, Postpartum and Newborns: Literature Review. *Journal of Health Discourse* vol 8(1):27-37. <https://doi.org/10.52822/jwk.v8i1.517>
- Dewi, R.S., Wahyuni, Pratiwi, E., and Muharni, S. (2019). Use of Traditional Medicine by the Community in Tuah Karya Village, Pekanbaru City. *J Indonesian Farm Researcher*, vol 8(1): 41–45.
- Harahap, F. S., & Marpaung, H. (2018). Comparison of the contents of cinnamic acid and benzoic acid in Frankincense (*Styrax benzoin*) Quality I, III and V Obtained from the North Tapanuli Area using the Gas Chromatography Method. *Journal of South Tapanuli Muhammadiyah University*, 3(1), 42-47
- Hegemur, R., Dingse, P., and Nelson, N. (2023). Inventory of Plant Types for Traditional Medicine of Bakera for Women after Giving Birth in Sea Mitra Pineleng Village, Minahasa, North Sulawesi. *JPAI: Journal of Indonesian Women and Children*, vol 5(1):40-51. <https://doi.org/10.35801/jpai.5.1.2023.51270>
- Hikmawanti, N. P. E., Hariyanti., Aulia, C., & Viransa, V. P. (2016). Piperine content in black pepper fruit extract and white pepper fruit extract (*Piper black* L.) Extracted with Varying Ethanol Concentrations using the TLC-Densitometry Method. *Pharmaceutical Media Journal*, 13(2), 173-185
- Irawan, H., Syera, S., Ekawati, N., & Tisnadaja, D. (2020). The Effect of the Maceration Process with Varying Ethanol Solvent Concentrations on the Compound Content of Papaya Leaf Extract (*Load papaya* L.) and Purple Sweet Potato Leaves (*Dream potatoes* L. Lam). *Manuntung Scientific Journal*, 6(2), 252-264.
- Isrul, M., Dewi, C., & Wahdini, V. (2020). Test the Anti-Inflammatory Effects of Red Spinach Leaf Infusion (*Amaranthus tricolor* L.) Against the White Rat (*Rattus norvegicus*) Which is Carrageenan Induced. *Mandala Pharmacon Indonesia Journal*, 6(2), 97-103
- Khasanah, S., and Andrey, W. (2023). Analysis of Breastfeeding Mothers' Perceptions regarding Drug Safety in Karangmuljo Village, Pegandon District, Kendal Regency. *Journal of Holistics and Health Sciences*, 5(1):1-7. <https://doi.org/10.35473/jhhs.v5i2.251>

- Lestari, F., Yuli, F., and Ivoni S. (2023). Anti-Diabetic Cure Plants In Sungai Kijang Pride. *JPPIPA (Journal of Science Education Research)*, vol 9(12):11368-11372. <http://doi.org/10.29303/jppipa.v9i12.5915>
- Lestari, F., Yuli, F., Ivoni, S., Agus A., dan Frengky, A.P. (2023). Boiling Technique As A Way Of Processing Antidiabetic Medicinal Plants Of The Anak Tribe In The Kijang River, Ulu Rawas District. *Chelonian Conservation And Biology*, vol 18(2):1319-1328. <https://www.acgpublishing.com/index.php/CCB/article/view/110>
- Lestari, F., and Yunita. (2021). Exploration of Antidiabetic Medicinal Plants in Tuah Negeri District, Musi Rawas Regency. *Organic Samudra*, vol 3(1):35-42. <https://doi.org/10.33059/jbs.v3i1.349110>
- Lestari, F., and Ivoni, S. (2019). Exploration of the Process of Processing Immunomodulatory Medicinal Plants for the Child Tribe in Bendar Bengkulu. *Bioeducation: Journal of Biology Education*, Vol 10 (2). <http://dx.doi.org/10.24127/bioedukasi.v10i2.2495>
- Mappa, M. R., Kuna, M. R., & Akbar, H. (2021). Utilization of Pineapple Fruit (*Pineapple comosus* L.) As an antioxidant to increase body immunity in the era of the Covid 19 pandemic. *Community Engagement & Emergence Journal*, 3(1), 64-68
- Mayasari, U., & Safitri, A. (2019). Antibacterial Activity Test of Fragrant Lemongrass Leaves (*Cymbopogon Nardus*) Against Bacterial Growth *Streptococcus mutans*. *Chlorophyll: Journal of Biological and Applied Sciences*, 3(2), 15-19
- Nisa, G. K., Nugroho, W. A., & Hendrawan, Y. (2014). Red Betel Leaf Extraction (*Piper Crooked*) with Method Microwave Assisted Extraction (HAS). *Journal of Tropical Commodity Bioprocessing*, 2(1), 72-78
- Okinarum, G. Y., Lestariningsih., & Fauziah, A. (2020). Potency of Batu Banana Heart Tea (*Musa balbalisiana colla*) as a Galagtagogue in Increasing Serum Prolactin Levels During Lactation. *JKFT Journal*, 5(2), 54-61
- Pelu, A. D., & Djarami, J. (2022). Antibacterial Activity of Ethanol Extract of Harendong Bulu Leaves (*Clidemia shaggy*) from Maluku towards *Staphylococcus aureus*. *Scientific Journal of Health Research*, 7(4), 351-357
- Primawati, S. N., & Jannah, H. (2019). Effect of Galangal Extraction Method (*Kaempferia galanga* L.) on Growth *Staphylococcus aureus*. *Biological Scientific Journal*, 7(2), 177-181
- Pujihastuti, L.A., Nina, T., and Nita, A. (2020). Ethnobotanical Study of Medicinal Plants of the Anak Dalam Tribe in Sungai Jernih Village, Rupit District, North Musi Rawas Regency, South Sumatra. *Sriwijaya Bioscientia Scientific Journal of Biology*, vol 1(2):57-65. <https://doi.org/10.24233/sribios.1.2.2020.198>
- Purwati, P., and Alfi, N. (2020). Factors that Cause Postpartum Blues. *Scientific Journal of Medical Records and Health Informatics (INFOKES)*, vol 10(2):1-4. <https://doi.org/10.47701/infokes.v10i2.1021>
- Sari, D., & Nasuha, A. (2021). Nutrient Content, Phytochemicals, and Pharmacological Activities in Ginger (*Zingiber officinale* Rosc): Review. *Tropical Bioscience: Journal of Biological Science*, 1(2), 11-18
- Saudah., Irhamni., and Diana. (2023). Identification of Postnatal Medicinal Plants in the Lhong Aceh Besar Community. *Constructivist Porch*, vol 5(2):1-5. <https://doi.org/10.32672/konstruktivis.v5i2.6427>
- Siregar, S., Indriani., Rizky, V. A., Krisdianilo, V., & Marbun, R. A. T. (2020). Comparison of the Antibacterial Activity of Lime Leaf Infusion (*Citrus aurantifolia*) and Kaffir Lime Leaves (*Citrus hystrix*) against the Battery *Escherichia coli*. *Pharmaceutical Journal*, 3(1), 39-46

- Sukohar, A., Suharmanto, S., and Andi, N. (2023). Screening and the Healthy Living Community Movement (Germas) as an effort to prevent catastrophic diseases. *JPM (Community Service Journal) Ruwa Jurai*, vol 6(4):1660-1669. <https://doi.org/10.23960/jpm6159-63>
- Susanti, I., Fitria, L., Nadia, S.P., and Puja, A.I.A. (2023). Inventory of Medicinal Plants with Antidiabetic Potential in North Lubuklinggau District. *Nusantara Hasana Journal*, vol 2(8):314-325. <https://nusantarahasanajournal.com/index.php/nhj/article/view/665>
- Susanti, D., Liza, L., Lu'lu, H.S., Madury, Q., and Maharatu, A. (2022). Counseling on Drug Use Categories for Breastfeeding Mothers in Panjang Utara District. *Malahayati Pharmaceutical Service Journal*, vol 5(2):60-67. <https://doi.org/10.33024/jpfm.v5i2.8461>
- Tarigan, M.R.M. (2020). Exploration and Characterization of Semar Pockets (*Nepenthes* Sp) in the Forest Area on Jalan Brand-Sidikalang, Lae Pandom, Brand, Karotarigan Regency. *Biolocus Journal*, vol 3(1):252-258. <http://doi.org/10.30821/biolokus.v3i1.682>
- Wardhina, F., Fakhriyah., and Rusdiana. (2019). Behavior of Using Traditional Medicine among Postpartum Women in Sungai Kitano Village, East Martapura District, Banjar Regency. *Jurkessia*, vol IX(2):68-75. <https://journal.stikeshb.ac.id/index.php/jurkessia/article/view/169>
- WHO (World Health Statistics). (2019). *Maternal mortality: Evidence Bikfokes Volume 3 Edition 2 Year 2023 85 brief*. WHO.
- WHO (World Health Statistics). (2021). *Maternal Mortality Rate and Infant Mortality Rate*. World Bank.
- Winata, H. S., Faisal, H., Andry, M., Aulia, N., Nasution, M. A., & Tambunan, I. J. (2023). Determination of total flavonoid content of ethanol extract of kandis acid fruit (*Garcinia xanthochymus*) using Uv-Vis spectrophotometry and LCMS methods. *Journal of Pharmaceutical and Sciences*, 6(3), 935-950
- Yustian, I., Hilda, Z., Arum, S., Doni, S., Muhammad, I., Ina, A., Winda, I., Rio, F.S., Hendi, S., Rahmat, P., Catur, Y.P., Deny, N., and Guntur, P. Quick Survey Guide to Fauna Diversity in South Sumatra. Palembang: UNSRI. 2017
- Zulfa, I.M., and Widya, H. (2022). Drug Safety for Pregnant and Breastfeeding Women. *ASTA Journal: Servants of Our Society*, vol 02(01):13-25. <https://doi.org/10.33759/asta.v2i1.205>