



ETHNOBOTANY OF WOMEN'S HEALTH PLANTS IN TRIMULYA VILLAGE SANGGAU REGENCY

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ABSTRACT: Women's health care is a very important thing to do. However, not all women's health care is safe because most of it uses products or ingredients that can damage the body. The solution for that problem is to use natural ingredients that come from nature as an alternative to maintain women's health. The people of Trimulya Village, especially women, still use plants to maintain their health. This research aims to determine the plant species used for women's health and how the plant processed as in Trimulya Village. The research method used is descriptive qualitative, with data collection carried out using structured interviews, observation, and documentation. Based on the research results, 21 plant species are used to maintain women's health in Trimulya Village three of which are rarely found, namely white turmeric (*Curcuma zedoaria* Roxb), Chinese betel (*Peperomia pellucida* (L.) Kunth), and lempuyang (*Zingiber zerumbet* (L.) Roscoe). The most frequently used processing method is by boiling. The plants used by the community are come from their garden or the yard of the house.

Keywords: Plant Ethnobotany, Sanggau Regency, Women's Health.

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INTRODUCTION

Women's health is a condition that refers to health that is specific to women and different from men (Dwi & Majestika, 2015). This the different of anatomical and morphological structure of male and female bodies, for example, reproduction structure function (Titiek et al., 2022). Women's health has complex elements such as the menstrual cycle, breast health, pregnancy, childbirth and postpartum, reproductive organ health, and cosmetical needs (Shanthi et al., 2014). The health issues experienced by women have changed significantly over the past few years. Global efforts to improve women's health have largely focused on sexual and reproductive health (Peters et al., 2016). The women problems in Indonesia include of the health problem and even death (Haisyah et al., 2014). Women's health care is very important. However, not all product that used by women to maintain their health is safe because most women's health care uses chemical products that can damage the body. Natures ingredient can be used as an alternative treatment to decrease chemical product used. Plant used as medicine in Indonesia was practiced since long time ago. That local wisdom passed down from generation to generation and also from personal experience. The utilization of plants by a community is



called ethnobotany. Ethnobotany is a branch of science that studies the traditional use of various plants by a community (Habibah, 2014).

The most widely used plant utilization by a community is for medicinal purposes (Virginia et al., 2023). Medicinal plants are a type of plant that has medicinal properties that can be used to prevent or treat a disease. This is because plants contain active substances that affect overcoming a disease (Sarno, 2019). Medicinal plants are widely used because the side effects are smaller, and the processing is easy. How to process plants for treatment only refers to experience or knowledge passed down from previous generations, so medicinal plant ingredients are classified as special because it is a hereditary tradition (Ramdhayani et al., 2023).

The community in Trimulya Village still utilizes plants in their daily lives. Trimulya Village is one of the villages located in Mukok District, Sanggau Regency, West Kalimantan Province. The people of Trimulya Village, especially women, still utilize plants to maintain their health because of the limited availability of medicines and far access to the hospitals, however plants for treatment has very few side effects than the use of chemical drugs and economics. This study is limited to women's health, which includes the menstrual cycle, pregnancy, postpartum, breast care (breastfeeding), facial and skin care, and reproductive health. This study aims to determine the species of plants that are used by women's and how to process them. This research is important because it can be used as an alternative to maintain their. Research on plants for women's health in trimulya village has never been documented before so it is necessary to conduct research to preserve traditional knowledge and also as an effort to preserve plants. In addition, community knowledge about the utilization of natural resources, especially plants, is important to see the role of traditional knowledge owned by the community in everyday life (Syamswisna, 2023).

METHODS

This research was conducted in 6 hamlets of Trimulya Village, Mukok District, Sanggau Regency, in July-August 2023. The six hamlets in this study include the hamlets of Tokang Baru, Tokang Jaya, Bakong Jaya, Manunggal Jaya, Marga Jaya and Marga Mulya. The tools and materials used were structured interview sheets. This type of research is descriptive qualitative with data collection techniques using triangulation techniques, namely collecting data from the same source with different techniques (Sugiyono, 2021). The triangulation techniques used in this study include interviews, observation, and documentation. Determination of informants for interviews was carried out using the snowball sampling technique with open-ended question types. Sample determination is carried out by determining the first key informant obtained based on the recommendation of the village head. The next informant is determined based on the recommendation of the previous informant. This is done until the data obtained is considered saturated or does not obtain updates (Saleh, 2017). Interviews were conducted with 8 informants consisting of 2 village healers and 6 general public who still utilize plants for women's health.

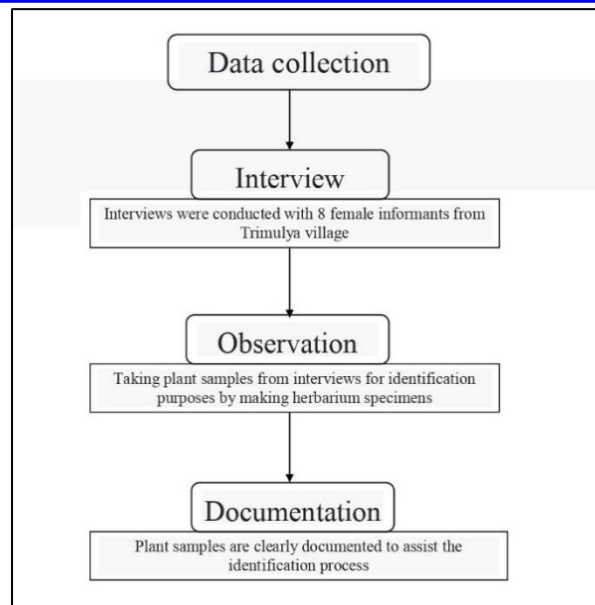


Figure 1. Picture of triangulation technique research flow.

The data analysis process in this research is in accordance with Rijali (2018) who states that qualitative data analysis is combined with a data collection process consisting of interviews, observation, and documentation, data reduction or summarizing the results of data collection, presenting data presented narratively and accompanied by pictures of plants that have been identified, as well as the conclusions of the research results. The process of plant identification is carried out by means of plants obtained by making herbarium, then identification is carried out using the book *Flora* by Steenis and to further confirm the name of the plant species, identification is carried out using the plant data website, namely POWO (Plant of the World Online). Plant identification is done based on morphological characteristics such as roots, stems, leaves, flowers, fruits, and seeds.

RESULTS AND DISCUSSION

Based on research that has been conducted in 6 hamlets in Trimulya Village, there are 21 plant species used to maintain or overcome women's health problems in Trimulya Village. The plants found are used to overcome different health problems. The plant species found were grouped into 13 families, namely the Zingiberaceae, Piperaceae, Menispermaceae, Fabaceae, Bromeliaceae, Moringaceae, Caricaceae, Asphodelaceae, Euphorbiaceae, Annonaceae, Oleaceae, Gramineae, and Rosaceae families (Table 1). Women in Trimulya village process plants in several ways, including boiling, sowing, rubbing, pounding, and consume directly. The plants used by women in Trimulya Village are usually taken from nature or plants that grow wild and planted in the garden or the yard. However, most of the plants found were obtained from the community's cultivation in the yard or garden. The plant for the treatment are take when it will be used, or some are deliberately stored as a backup drug if needed at any time. Plants that are stored are not whole plants. Usually, only the necessary parts of the plant are stored. This storage is usually in whole or dried form. There were 19 species of cultivated plants

grown by Trimulya village community, 3 species of plants growing wild and 5 species of plants obtained by purchase (Table 1).

Table 1. Research Results Regarding the Plants Used for Women's Health.

| No. | Local/Common Name and Scientific Name | Parts Used | Processing Method | Family | Method of Acquisition |
|-----|---|------------------|--------------------|----------------|-----------------------|
| 1 | Bengle/Bangle (<i>Zingiber montanum</i> (J.Koenig)) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 2 | Puyang/Lempuyang (<i>Zingiber zerumbet</i> (L.) Roscoe) | Rhizome | Boiled | Zingiberaceae | Grew wild |
| 3 | Lengkuas (<i>Alpinia galanga</i> (L.) Willd) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 4 | Jahe (<i>Zingiber officinale</i> Roscoe) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 5 | Kunyit putih (<i>Curcuma zedoaria</i> Roxb) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 6 | Kunyit (<i>Curcuma domestica</i> Val.) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 7 | Temulawak (<i>Curcuma zanthorrhiza</i> Roxb) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 8 | Kencur (<i>Kaempferia galanga</i> L.) | Rhizome | Boiled | Zingiberaceae | Cultivation |
| 9 | Brotowali (<i>Tinospora crispa</i> L.) | Trunk | Boiled | Menispermaceae | Cultivation |
| 10 | Asam jawa (<i>Tamarindus indica</i> L.) | Fruit | Boiled | Fabaceae | Cultivation/ buy |
| 11 | Nanas (<i>Ananas comosus</i> (L.) Merr.) | Fruit | Eaten directly | Bromeliaceae | Cultivation/ buy |
| 12 | Kelor (<i>Moringa oleifera</i> Lam.) | Leaves | Cooked | Moringaceae | Cultivation |
| 13 | Pepaya (<i>Carica papaya</i> L.) | Leaves and fruit | Boiled and pounded | Caricaceae | Cultivation |
| 14 | Lidah buaya (<i>Aloe vera</i> (L.) Burm.f.) | Leaves | Smear | Asphodelaceae | Cultivation |
| 15 | Cangkok manis/Katuk (<i>Sauropus androgynus</i> (L.) Merr) | Leaves | Cooked | Euphorbiaceae | Cultivation/ buy |
| 16 | Sirih cina/Tumpang air (<i>Peperomia pellucida</i> (L.) Kunth) | Leaves | Boiled and mashed | Piperaceae | Grew wild |
| 17 | Sirih (<i>Piper betle</i> L.) | Leaves | Boiled | Piperaceae | Cultivation |
| 18 | Kenanga (<i>Cananga odorata</i> Lam.) | Flowers | Pounded | Annonaceae | Cultivation |
| 19 | Melati putih (<i>Jasminum sambac</i> (L.) Aiton) | Flowers | Pounded | Oleaceae | Cultivation |
| 20 | Padi (<i>Oryza sativa</i> L.) | Fruit | Pounded | Gramineae | Cultivation/ buy |
| 21 | Mawar (<i>Rosa hybrida</i> Vill) | Flowers | Boiled | Rosaceae | Cultivation/ buy |

The plant species found were used to maintain and treat different health problems. Knowledge about the utilization of this plant is obtained from generation to generation from parents, family, friends, and personal experience. The most



utilization of plants is for postpartum health, as many as 7 species, for skin and lip health (moisturizing and brightening), as many as 7 species, to overcome menstrual problems, as many as 5 species, to prevent breast cancer, as many as 4 species, to launch breast milk, as many as 4 species, to overcome reproductive health problems (such as maintaining cleanliness and overcoming vaginal discharge), as many as 3, and the least utilization of plants is to tighten breasts, as many as 1 species (Table 2).

Table 2. Plant Species and Their Uses.

| No. | Benefits | Species |
|-----|---|--|
| 1 | Postpartum | Bangle (<i>Zingiber montanum</i> (J.Koenig) Lempuyang (<i>Zingiber zerumbet</i> (L.) Roscoe) Temulawak (<i>Curcuma zanthorrhiza</i> Roxb) Kencur (<i>Kaempferia galanga</i> L.) Brotowali (<i>Tinospora crispa</i> L.) Asam jawa (<i>Tamarindus indica</i> L.) Pepaya (<i>Carica papaya</i> L.) |
| 2 | Skin and lip health (moisturizing and brightening) | Kunyit (<i>Curcuma domestica</i> Val.) Pepaya (<i>Carica papaya</i> L.) Kenanga (<i>Cananga odorata</i> (Lam.)) Sirih cina/Tumpang air (<i>Peperomia pellucida</i> L.) Melati putih (<i>Jasminum sambac</i> (L.) Aiton) Padi (<i>Oryza sativa</i> L.) Mawar (<i>Rosa hybrida</i> Vill) |
| 3 | Menstrual cycle and pain | Lengkuas (<i>Alpinia galanga</i> (L.) Willd) Jahe (<i>Zingiber officinale</i> Roscoe) Kunyit (<i>Curcuma domestica</i> Val.) Asam jawa (<i>Tamarindus indica</i> L.) Nanas (<i>Ananas comosus</i> (L.) Merr.). |
| 4 | Preventing breast cancer | Lempuyang (<i>Zingiber zerumbet</i> (L.) Roscoe) Lengkuas (<i>Alpinia galanga</i> (L.) Willd) Kunyit putih (<i>Curcuma zedoaria</i> Roxb) Sirih cina/Tumpang air (<i>Peperomia pellucida</i> (L.) Kunth) |
| 5 | Getting breast milk flowing | Temulawak (<i>Curcuma zanthorrhiza</i> Roxb) Kelor (<i>Moringa oleifera</i> Lam.) Pepaya (<i>Carica papaya</i> L.) Cangkok manis/Katuk (<i>Sauropus androgynus</i> (L.) Merr.) |
| 6 | Vaginal discharge and reproductive hygiene issues | Kunyit putih (<i>Curcuma zedoaria</i> Roxb) Kunyit (<i>Curcuma domestica</i> Val.) Sirih (<i>Piper betle</i> L.) |
| 7 | Breast firming | Lidah buaya (<i>Aloe vera</i> (L.) Burm.f.) |

Based on the interviews conducted, out of the 21 plant species used, there are three plant species most mentioned by informants for women's health care. The three plant species are turmeric (*Curcuma domestica* Val.), betel (*Piper betle* L.), and rose (*Rosa hybrida* Vill). Turmeric (*Curcuma domestica* Val.) is used to overcome menstrual cycle problems, maintain skin health, and keep reproductive organs clean (Figure 1). Turmeric (*Curcuma domestica* Val.) rhizome have potential pharmacological activities, namely as anti-inflammatory, anti-immunodeficiency, antiviral, antibacteria, antifungal, antioxidant, anticarcinogenic, and anti-infective (Azis, 2019; Raslina et al., 2018). Turmeric (*Curcuma domestica* Val.) also has an active compound, curcumin, which can

inhibit the occurrence of cyclooxygenase (COX) reactions that can inhibit or reduce inflammation and uterine contractions that cause menstrual pain (Marsaid et al., 2017). Betel (*Piper betle* L.) is used to treat the problem of vaginal discharge and cleanliness of reproductive organs (Figure 1). Betel (*Piper betle* L.) leaves contain essential oils consisting of betlephenol, kavikol, sesquiterpan, hydroxycavikol, estragol, eugenol, cavibetol, and carvacol and contain diastase enzymes, sugars, and tannins. The eugenol compound found in betel leaves is proven to kill the *Candida albicans* fungus that causes vaginal discharge. At the same time, tannins act as astringents to reduce fluid secretion in the vaginal canal (Mustika et al., 2014).

Rose flowers (*Rosa hybrida* Vill) are used to moisturize and brighten the skin and lips (Figure 1). Rose flowers (*Rosa hybrida* Vill) contain several compounds, including alkaloid compounds, tannins, flavonoids, steroids, and triterpenoids, that can moisturize the skin and contain vitamin C so that it can brighten the skin (Hasanah, 2019). Another species that is widely mentioned is white turmeric (*Curcuma zedoaria* Roxb), which is used to prevent breast cancer (Figure 1). White turmeric (*Curcuma zedoaria* Roxb) contains flavonoids, phenolics, and saponins, which are believed to be anticancers so that they can prevent breast cancer (Hudaya et al., 2016).

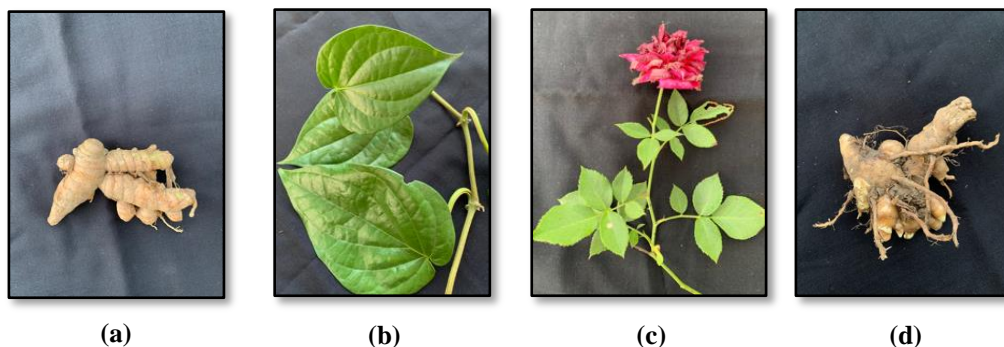


Figure 2. (a) Turmeric (*Curcuma domestica* Val.), (b) Betel (*Piper betle* L.), (c) Rose flowers (*Rosa hybrida* Vill), and (d) White turmeric (*Curcuma zedoaria* Roxb).

The plants found are divided into 13 families, the most number of plants found is from the Zingiberaceae family, which is as many as 8 species. Then, the Piperaceae family as many as 2 species, and other families such as Menispermaceae, Fabaceae, Bromeliaceae, Moringaceae, Caricaceae, Asphodelaceae, Euphorbiaceae, Annonaceae, Oleaceae, Gramineae, and Rosaceae each as much as 1 species (Table 3). The Zingiberaceae family is found the most because these plants are found to grow in humid environments, so they are found in Indonesia because of the tropical climate (Sari et al., 2023). Most of them are herbs that are found in rural areas (Hayati, 2014). The Zingiberaceae family is widely used as medicine because the rhizomes of the Zingiberaceae family plants contain limonene, eugenol, and geraniol (Azizah et al., 2019). The rhizomes of plants in the Zingiberaceae family contain atisri oil, which can be used as an anti-viral, anti-microorganism material, contains flavonoids that act as antioxidants to ward off free radicals, and there are polyphenolic compounds that can reduce cholesterol levels (Nasution et al., 2020). Plant habitus used as an ingredient for



women's health care in Trimulya Village is divided into six habitus types: bush, shrubs, trees, lianas, succulents, and herbs (Table 3). The most common plant habitus is herbaceous, namely 10 plants, bush, shrubs, and trees have as many as 3 plants, while the least habitus is succulent and liana each 1 plant. Herb habitus is a plant with a soft stem that does not form wood (Hayati, 2014). Plants with herbaceous habitus are generally easier to find, so they are widely utilized (Handayani & Hidayati, 2020).

Table 3. Plant Family and Habitus.

| No. | Family | Species | Habitus |
|--------------------------------|----------------|---|------------|
| 1 | Zingiberaceae | Bengle/Bangle (<i>Zingiber montanum</i> (J.Koenig)) | Herb |
| | | Puyang/Lempuyang (<i>Zingiber zerumbet</i> (L.) Roscoe) | Herb |
| | | Lengkuas (<i>Alpinia galanga</i> (L.) Willd) | Herb |
| | | Jahe (<i>Zingiber officinale</i> Roscoe) | Herb |
| | | Kunyit putih/Temu putih (<i>Curcuma zedoaria</i> Roxb) | Herb |
| | | Kunyit (<i>Curcuma domestica</i> Val.) | Herb |
| | | Temulawak (<i>Curcuma zanthorrhiza</i> Roxb) | Herb |
| | | Kencur (<i>Kaempferia galanga</i> L.) | Herb |
| | | 2 | Piperaceae |
| Sirih (<i>Piper betle</i> L.) | Liana | | |
| 3 | Menispermaceae | Brotowali (<i>Tinospora crispa</i> L.) | Shrubs |
| 4 | Fabaceae | Asam jawa (<i>Tamarindus indica</i> L.) | Tree |
| 5 | Bromeliaceae | Nanas (<i>Ananas comosus</i> (L.) Merr.) | Shrubs |
| 6 | Moringaceae | Kelor (<i>Moringa oleifera</i> Lam.) | Tree |
| 7 | Caricaceae | Pepaya (<i>Carica papaya</i> L.) | Herb |
| 8 | Asphodelaceae | Lidah buaya (<i>Aloe vera</i> (L.) Burm.f.) | Succulents |
| 9 | Euphorbiaceae | Cangkok manis/Katuk (<i>Sauropus androgynus</i> (L.) Merr) | Shrubs |
| 10 | Annonaceae | Kenanga (<i>Cananga odorata</i> (Lam.)) | Tree |
| 11 | Oleaceae | Melati putih (<i>Jasminum sambac</i> (L.) Aiton) | Shrubs |
| 12 | Gramineae | Padi (<i>Oryza sativa</i> L.) | Herb |
| 13 | Rosaceae | Mawar (<i>Rosa hybrida</i> Vill) | Shrubs |

Plant parts used by women in Trimulya Village consist of leaves, flowers, stems, and rhizomes (Figure 2). The most widely used part is the rhizome, which is as many as eight species. Rhizome parts are widely used because they have active compounds such as flavonoids, saponins, and essential oils consisting of kampen, metal cinnamate, cineol, galangan, galanin, and alpine (Azizah et al., 2019). Essential oil in the rhizome produces secondary metabolite compounds that can inhibit the growth of pathogens, and flavonoid compounds increase the body's immunity (Feberian & Fitriati, 2022). The least used part is the stem, which is one species.

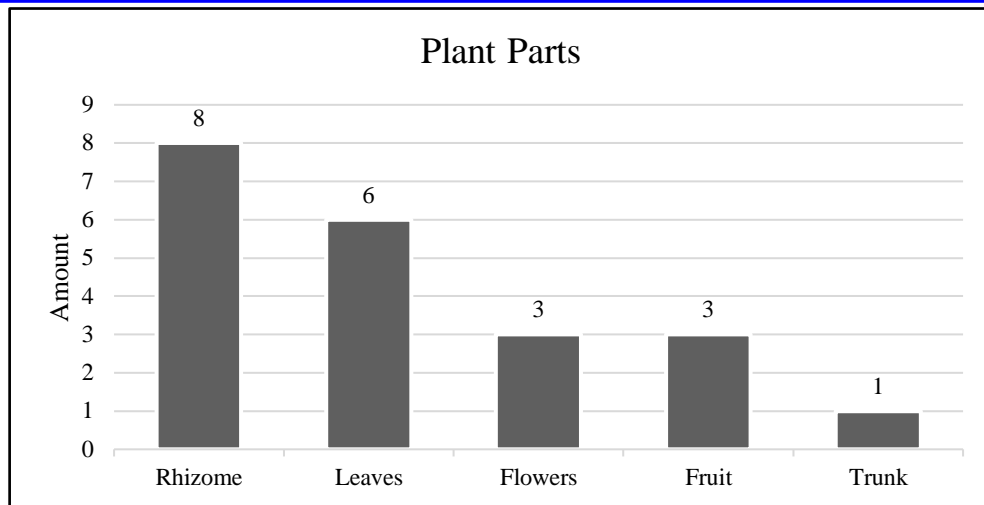


Figure 2. Summary of Plant Parts Used for Women’s Health Care.

Plant processing is simply by adding ingredients that are easily obtained. This processing is only based on hereditary knowledge or experience. Some plants must be processed and mixed with other additives first. But there are also plants that are directly used without being processed first. The most common way of processing is by boiling (Figure 3). Boiling aims to transfer substances in plants into a water solution that will be drunk for medicinal purposes (Leisha, 2017). This boiling process can also reduce the bitter or bland taste of plant parts when compared to eating plant parts directly without being processed first and is more hygienic because boiling can kill pathogenic bacteria (Novianti, 2014). At the same time, the processing method that is least done is by rubbing.

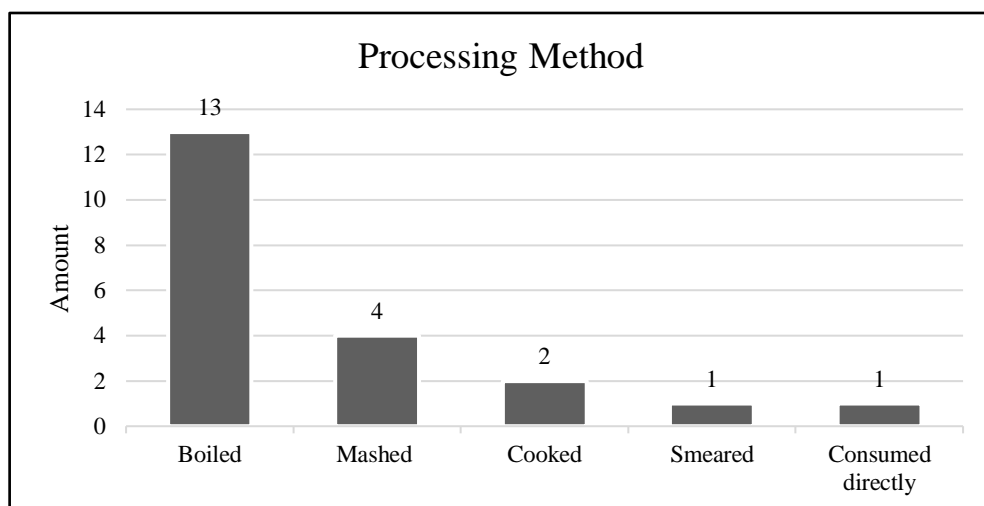


Figure 3. Processing Methods of the Plant Species Used for Women’s Health.

Treatment with traditional means is recognized as having an important role in the health sector, and one of the most common ingredients is plants (Cordero et al., 2023). The use of plants as medicine or maintaining health traditionally by



women in Trimulya Village is still widely used because it is cheaper, plants are easy to find, and do not need to spend much money compared to modern medicines because most plants are grown by the community in the garden or yard. The use of plants in traditional medicine is considered safer than modern medicine because traditional medicine has relatively smaller side effects than modern medicine. However, people must still pay attention to the accuracy of how to use it to minimize side effects (Sumayyah & Salsabila, 2017).

CONCLUSION

There are 21 species used to maintain or overcome women's health problems by women in Trimulya Village. The plants are divided into 13 families; the most families found are the Zingiberaceae family. The most part used is the rhizome, which is as many as 8 plants, and the least used is the stem, which is only 1 plant. Plant processing methods are still simple and based on hereditary knowledge or experience. The most common way of processing is by boiling. In comparison, the processing method that is least done is by applying.

SUGGESTION

It is necessary to disseminate knowledge about plants for women's health in Trimulya Village and preserve plants that are difficult to obtain so that local knowledge and plant sustainability are maintained.

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