



Ethnomedicine Study in Enhancing Women's Reproductive Health

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ABSTRACT

Objective: The aim of this research is to analyze the number and variety of uses of medicinal plants in improving reproductive health in Sukamulya Village as local community wisdom in medicine (*Ethnomedicine*).

Method: Descriptive qualitative research method using an ethnographic approach to document and analyze the practice of using medicinal plants in ethnomedicine in Sukamulya Village, Ciamis using data collection techniques through in-depth interviews and participant observation. Research participants consisted of cadres and individuals who actively used traditional medicine.

Result: Research results show that the most commonly used medicinal plants for reproductive health include fennel pulosari, cinnamon, and black cumin to reduce menstrual pain; rambusa flowers, pomegranate skin, papaya leaves and betel leaves to reduce heavy bleeding during menstruation; bitter leaves, castor leaves, galangal, turmeric and Mahkota dewa to regulate the menstrual cycle as well as gardenia leaves and papaya leaves are often used in traditional medicine to stimulate delayed menstruation. The use of these plants is not only medicinal, but also reflects cultural values and traditional beliefs.

Conclusion: The people of Sukamulya Village, Ciamis Regency apparently have knowledge about medicinal plants because they usually use various types of plants as medicinal ingredients. There are around 14 species from 11 families that are known and used by the public to cure various reproductive health diseases.

Keywords: Ethnomedicine, Reproductive, Women

Introduction

Reproductive health is an important aspect of the quality of life for both individuals and society. Many women of childbearing age experience menstrual problems or abnormal menstruation, such as premenstrual syndrome (PMS) and irregular menstrual cycles (Sirait & Futriani, 2024). Menstrual health is crucial for building the quality of human resources and is closely related to reproductive health (Indrawati & Tjandrarini, 2018). According to data from the World Health Organization, approximately 80% of women worldwide experience irregular menstruation. Basic health research conducted in 2018 indicated that 11.7% of Indonesian teenage girls experience irregular menstrual cycles (Indrawati & Tjandrarini, 2018).

Irregular menstrual disorders can have significant impacts, including menstrual pain, variations in bleeding amounts, and PMS. If not treated promptly, these issues can lead to serious complications. Irregular menstruation may signal an anovulatory cycle, increasing the likelihood that these women may experience difficulties with fertility (Ilham, Islamy, & Nasution, 2023).

In many communities, especially those in rural or remote areas, traditional medicine, or ethnomedicine, plays a crucial role in maintaining reproductive health (Moini Jazani et al., 2018). Ethnomedicine encompasses the knowledge, practices, and beliefs passed down from generation to generation, which are often deeply rooted in the local cultural and environmental context (Silalahi & Nisyawati, 2018).

Sukamulya Village, a region in Indonesia, exemplifies an area where ethnomedicine practices are highly valued and widely used. In this community, knowledge about reproductive health is not only vital for individual well-being but also essential for the preservation of their culture. The use of medicinal plants, healing rituals, and other traditional practices offers valuable insights into how local communities care for their reproductive health without relying on modern healthcare systems.

Understanding ethnomedicine practices can create opportunities to integrate traditional methods with modern medicine, thereby improving the quality of health services through a more holistic approach that aligns with the local cultural context. Recognizing and valuing traditional knowledge can empower local communities, enhance their confidence in managing their own health, and strengthen their cultural identity. Research on ethnomedicine concerning medicinal plants and traditional healing practices can provide a foundation for further scientific investigations and the development of new medicines based on natural ingredients.

Research on ethnomedicine has grown rapidly in recent decades, with a particular focus on harnessing traditional knowledge and the use of medicinal plants to improve reproductive health. These studies encompass a variety of scientific disciplines, including anthropology, pharmacology, biology, and public health. The use of medicinal plants such as fennel, pulosari, cinnamon, and turmeric is known for their anti-inflammatory, antispasmodic, and analgesic properties, which can be beneficial in treating menstrual pain and other reproductive health issues.

Much contemporary research concentrates on the integration of traditional medicine with modern healthcare to provide holistic reproductive health care. This approach involves collaboration between traditional medicine practitioners and medical professionals, as well as efforts to ensure the quality and safety of medicinal plants through regulation and standardization. These efforts include developing guidelines for the cultivation, processing, and use of medicinal plants in medical practice.

The continuation of this research is crucial for preserving medicinal plants and traditional knowledge through biodiversity conservation and sustainable agricultural practices. Ethnomedicine research targeting reproductive health reveals significant potential for improving women's health and well-being. The integration of traditional knowledge with modern science can yield effective and sustainable solutions. However, it remains essential to conduct rigorous research to ensure the safety, effectiveness, and sustainability of using medicinal plants in reproductive health practices.

Objective

The aim of this research is to analyze the number and variety of uses of medicinal plants in improving reproductive health in Sukamulya Village as local community wisdom in medicine (*Ethnomedicine*).

Method

The research employed a descriptive qualitative method with an ethnographic approach. Data were collected and analyzed in the form of words, actions, and human behaviors related to improving reproductive health through the use of ethnomedicine. The researcher did not attempt to calculate or quantify the qualitative data obtained; therefore, numerical analysis was not conducted.

The research participants, or informants, were selected based on their expertise and extensive knowledge regarding medicinal plants and traditional practices. The sample consisted of seven community health cadres with knowledge of medicinal plants. Notably, Sukamulya Village no longer has an active paraji (traditional birth attendant) available for treatment. The paraji traditionally plays a vital role in assisting childbirth and providing postpartum care.

Result

This research involved seven informants, specifically Health Cadres representing seven out of the ten hamlets in Sukamulya Village, Baregbeg District, Ciamis Regency. Based on the findings, a total of at least 14 types of medicinal plants belonging to 11 different families were identified and utilized by the community in Sukamulya Village, Ciamis Regency (see Table 1). The Zingiberaceae family accounted for the largest number of species, comprising four distinct species. Classifying plants at the family level is a crucial factor in understanding the use of specific plant species within local communities (Silalahi, 2016). The scientific names of the plants were verified through information gathered from informants, library searches, reference studies, and the plantamor.com website (2019). The following data were obtained from interviews and observations:

Medicinal Plants Used for Reproductive Health in Sukamulya Village

Table 1. Medicinal Plants Used for Reproductive Health in Sukamulya Village

Family (Latin Name)	Parts Used	Usage
Zingiberaceae (<i>Jahe -Zingiber officinale</i>)	Tubers	Reduces menstrual pain
Zingiberaceae (Turmeric - <i>Turmeric is long</i>)	Tubers	Regulates the menstrual cycle, reduces menstrual pain
Zingiberaceae (Kencur - <i>Kaempferia galanga</i>)	Tubers	Reduces menstrual pain
Zingiberaceae (Curcuma - <i>Curcuma xanthorrhiza</i>)	Tubers	Reduces menstrual pain
Acanthaceae (Sebaroto Leaves - <i>Andrographis paniculata</i>)	Leaf	Regulates the menstrual cycle
Euphorbiaceae (Castrophe Leaves - <i>Common tick</i>)	Leaf	Stimulates menstruation
Lamiaceae (Mint - <i>Mentha spp.</i>)	Leaf	Relieves menstrual pain, reduces stomach cramps.
Phyllanthaceae (Katuk Leaves - <i>Sauropus androgynus</i>)	Leaf	Regulates reproductive hormones
Piperaceae (Betel Leaves - <i>Piper betle</i>)	Leaf	Overcome whiteness
Caricaceae (Papaya Leaves - <i>Load papaya</i>)	Leaf	Regulates the menstrual cycle, stimulates delayed menstruation.
Passifloraceae (Bunga Rambusa - <i>Passiflora foetida</i>)	Flower	Reduces menstrual bleeding.
Thymelaeaceae (God's Crown Flower - <i>Phaleria macrocarpaa</i>)	Flower	Regulates the menstrual cycle
Lythraceae (Pomegranate Skin - <i>Punica granatum</i>)	Fruit Skin	Reduces menstrual bleeding
Lauraceae (Cinnamon - <i>True cinnamon</i>)	Tree bark	Regulates the menstrual cycle, improves hormonal function

Parts of Medicinal Plants Used by the Community in Sukamulya Village

In this study, various medicinal plants have been identified as an important part of traditional practices in Sukamulya Village. These plants include ginger, turmeric, galangal, bitter plants, castor leaves, mint leaves, katuk leaves, betel leaves, papaya leaves, rambusa flowers, crown of god flowers, pomegranate skin, and cinnamon. Each plant plays a unique role in maintaining reproductive health, as informed by traditions passed down through generations.

From interviews with informants, it became evident that the use of different parts of these medicinal plants varies according to the type of plant and its intended medicinal purposes. The various parts include:

Leaves: Widely used in potions for both oral consumption and external applications, such as compresses or topical treatments. For instance, katuk leaves and betel leaves are employed to promote the health of reproductive organs.

Bark: Utilized as a base for decoctions or infusions for drinking. The bark of cinnamon, for example, is commonly used to regulate the menstrual cycle and maintain hormonal balance.

Tubers: Plants like ginger, turmeric, and galangal are frequently processed into drinks or herbal remedies that are believed to improve blood circulation and alleviate menstrual symptoms.

Fruit: Pomegranate skin is typically used in extract or decoction form to support reproductive health, including hormonal balance and infection prevention.

Flowers: Rambusa flowers and crown of god flowers are often brewed into tea or consumed in potion form, believed to possess antioxidant and anti-inflammatory properties that support reproductive health.

Roots: The roots of plants, such as ginger, are commonly boiled and consumed to enhance stamina and maintain hormonal balance. Some plants, such as bitter plants, can be used in their entirety, as all parts are believed to possess detoxification properties and enhance the body's endurance.

The findings from the Sukamulya village community highlight the diversity in the use of medicinal plants based on the belief that different plant parts possess specific properties beneficial for reproductive health. This variation in usage exemplifies the rich local knowledge regarding the benefits of plants in ethnomedicine, which has evolved and adapted to meet the health needs of the Sukamulya Village community. Notably, the most commonly used parts of medicinal plants in the community are leaves (6 types) and tubers (4 types).

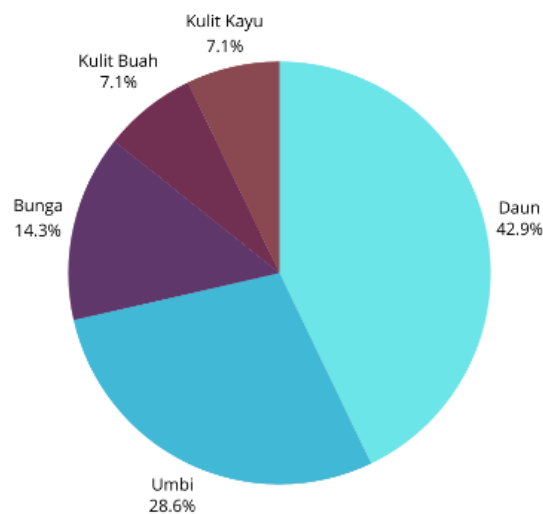


Figure 1. Parts of Medicinal Plants Used for Reproductive Health

Medicinal plants are commonly boiled or processed for direct consumption by the residents of Sukamulya Village. In this study, the community was observed using various medicinal plants to treat three types of reproductive disorders. A total of five species of medicinal plants were identified as effective in reducing or relieving menstrual pain (dysmenorrhea): ginger (*Zingiber officinale*), turmeric (*Curcuma longa*), aromatic ginger (*Kaempferia galanga*), mint leaves (*Mentha* spp.), and temulawak (*Curcuma xanthorrhiza*).

Additionally, four species of medicinal plants were noted to help regulate the menstrual cycle, addressing conditions such as polymenorrhea (frequent menstruation) or oligomenorrhea (infrequent menstruation). These plants include sambiloto leaves (*Andrographis paniculata*), turmeric (*Curcuma longa*), papaya leaves (*Carica papaya*), crown of god flower (*Phaleria macrocarpa*), and cinnamon (*Cinnamomum verum*).

Furthermore, two species of medicinal plants were recognized for their ability to stimulate menstruation (amenorrhea). Amenorrhea is defined as the absence of menstruation for more than three months (secondary) or a failure to menstruate by age 16 (primary). The plants used for this purpose include castor leaves (*Ricinus communis*) and papaya leaves (*Carica papaya*). Additionally, two species—rambusa flowers (*Passiflora foetida*) and pomegranate skin (*Punica granatum*)—are beneficial for relieving hypermenorrhea (menorrhagia), characterized by heavy or prolonged menstrual bleeding. Each type of plant serves a distinct purpose and function (refer to Table 1).

Based on interviews with respondents, ginger (*Zingiber officinale*), turmeric (*Curcuma longa*), and aromatic ginger (*Kaempferia galanga*) are widely utilized to alleviate menstrual pain due to their availability in local gardens and ease of processing. Ginger drink, which contains active compounds such as alkaloids, flavonoids, and saponins—while lacking quinones and tannins—exhibits anti-inflammatory and analgesic properties. Conversely, mint leaves (*Mentha* spp.) are less frequently used because unpredictable weather conditions cause the mint plants to perish easily, leading to a decline in usage among the community.

The utilization of plants in traditional medicine is varied, comprising different ingredients and parts of the plants. In Sukamulya Village, medicinal plants are used in a manner that does not rely solely on particular parts (see Figure 1). The most frequently utilized parts include leaves (42.9%), tubers (28.6%), flowers (14.3%), bark (7.1%), and fruits (7.1%) (see Figure 2). Several studies in other regions have also highlighted the significant role of leaves in traditional medicine. For example, research conducted on Mansinam Island in Manokwari identified 25 types of medicinal plants, with leaves being the most commonly used (18 types). Similarly, in Doremna Village, Depapre District, Jayapura Regency, 44% of the 59 identified species used for medicinal purposes were leaves (Kristina Ibo et al., 2019). Leaves are preferred in traditional medicine because they are generally easier to obtain, process, and are available year-round, regardless of the season and climate. In contrast, flowers are the least utilized part, as most plants only bloom during specific times.

The medicinal plants identified in this research are employed to address menstrual disorders, which can significantly impact reproductive health. The residents of Sukamulya Village use multiple types of plants to treat several reproductive disorders. Dysmenorrhea, oligomenorrhea, polymenorrhea, and amenorrhea are each managed with a total of 14 species of medicinal plants (see Table 1). Plants known for alleviating menstrual pain (dysmenorrhea) are typically used in advance of the menstrual cycle to prevent discomfort. Commonly used species include ginger (*Zingiber officinale*), turmeric (*Curcuma longa*), and aromatic ginger (*Kaempferia galanga*) (Tiara Carolin et al., 2023). These species are often cultivated in the vicinity, making them readily available. Both ginger and lemongrass (*Cymbopogon citratus*) are known to contain active compounds such as alkaloids, flavonoids, and saponins, and are void of quinones and tannins. The ginger drink is believed to possess anti-inflammatory and analgesic properties (Yuliningtyas et al., 2019).

Turmeric is rich in curcumin and essential oils, which provide analgesic effects, helping to reduce pain throughout the body. Additionally, curcumin is reputed to inhibit the

production of prostaglandin hormones associated with inflammation and menstrual pain (Indrayani and Ningsih, 2018).

Main components found in aromatic ginger (*K. galanga*) include ethyl-p-methoxycinnamate (31.77%), methylcinnamate (23.23%), carvone (11.13%), eucalyptol (9.59%), and pentadecane (6.41%). This extract is reported to have a variety of benefits, including anti-inflammatory, analgesic, antidiarrheal, antibacterial, sedative, cytotoxic, insecticidal, antihelminthic, and antioxidant effects (Cahyawati et al., 2020).

Oligomenorrhea and polymenorrhea are characterized by irregular menstrual cycles (Jazani et al., 2018). The people of Sukamulya Village believe and have proven through generations that menstrual disorders can be effectively managed with several medicinal plants, including rambusa flower (*Passiflora foetida*) and pomegranate skin (*Punica granatum*). For amenorrhea, the community relies on castor leaves (*Ricinus communis*) and papaya leaves (*Carica papaya*) (Hernawan Nugroho et al., 2017).

The composition of medicinal plants may include single ingredients, meaning one type of plant may be sufficient to treat a specific condition. However, some plants offer multiple medicinal benefits; for instance, turmeric aids in regulating the menstrual cycle while also alleviating menstrual pain (Nadia et al., 2019). Cinnamon also serves multiple functions, including regulating the menstrual cycle and enhancing hormonal function (Carolyn et al., 2023).

Discussion

Internship Ethnomedicine

The practice of ethnomedicine encompasses the use of traditional medicines, herbs, rituals, and other healing methods rooted in local knowledge and cultural contexts. Within the realm of reproductive health, these practices involve utilizing medicinal plants, healing rituals, and alternative approaches to support and improve reproductive health. Research findings indicate that the residents of Sukamulya Village commonly employ various medicinal plants to address reproductive health issues such as menstrual disorders, infertility, and pregnancy complications. These practices are often influenced by inherited knowledge and the experiences of local practitioners. Furthermore, such ethnomedical traditions are transmitted across generations, highlighting the continuity and adaptation of traditional knowledge in response to modern health challenges. The community maintains these practices as they are viewed as safer, more affordable, and more aligned with their cultural values.

Previous studies have established that ethnomedicine plays a crucial role in community health systems worldwide, particularly in rural areas. For example, Altman et al. (2017) demonstrated that the use of herbs in reproductive health care is prevalent across many cultures, often serving as either an alternative or adjunct to modern medicine. The findings from Sukamulya Village reinforce the relevance and efficacy of these practices within the local context.

Traditional Knowledge

Traditional knowledge consists of a compilation of information, practices, and beliefs transmitted from generation to generation within a specific community. This knowledge encompasses methods for using medicinal plants, treatment techniques, and beliefs related to reproductive health. Research conducted in Sukamulya Village revealed that knowledge regarding medicinal plants and their applications is largely derived from ancestral teachings.

For instance, pomegranate peel and castor leaves are frequently utilized to address fertility issues and inflammation within the female reproductive system.

A study by Singh et al. (2015) indicated that traditional knowledge regarding medicine is often trusted more by local communities than modern medical practices, especially in regions where access to conventional healthcare is limited. The findings from Sukamulya affirm that this traditional knowledge not only persists but continues to evolve in response to current public health needs.

Ethnomedicine Practice/Implementation

This variable refers to how ethnomedicine knowledge and traditions are practically applied by communities to enhance health, particularly in reproductive health contexts. This encompasses the actions, methods, and techniques individuals or groups use to leverage medicinal plants, rituals, and other healing methods. The practice of ethnomedicine involves various activities related to using traditional knowledge for treatment and health maintenance. In terms of reproductive health, practices may include herbal concoctions for menstrual issues, fertility enhancement, as well as care during pregnancy and postpartum. Additionally, the implementation of ethnomedicine may involve rituals or ceremonies deemed vital for maintaining reproductive health.

Ethnomedicine practices are diverse and utilized by different societal groups. For example, women often prepare herbal remedies from local plants to alleviate menstrual pain or fertility challenges. Some participants integrate ethnomedicine with modern medical practices, using herbal treatments for mild symptoms while consulting healthcare professionals for serious conditions. These practices are passed down through generations, showcasing the continuity and adaptation of traditional knowledge in the face of modern health challenges. Numerous studies, including Bodeker (2002), assert that ethnomedicine often complements formal healthcare systems, particularly in areas where access to modern medical services is limited. In Sukamulya, ethnomedicine frequently serves as the first line of healthcare, especially when modern medicine is inaccessible or unaffordable. Research by Etkin (1993) further highlighted that ethnomedicine practices are dynamic and evolve according to shifting needs and environmental circumstances, a trend also observed in Sukamulya Village, where the community adapts traditional practices to contemporary health conditions.

Strengths and Limitation

This research benefits from a holistic approach, considering the cultural, social, and environmental dimensions of understanding ethnomedicine practices. Such an approach provides a comprehensive perspective on how traditional knowledge and practices are applied in the context of reproductive health, yielding rich insights that quantitative research might overlook. It uncovers intricate relationships between culture and health informed directly by participants' experiences, enhancing the research's validity by reflecting genuine experiences without third-party interpretation.

However, the study also presents limitations. The qualitative nature of the research means findings may not be broadly generalizable beyond the specific community of Sukamulya Village; results could be context-specific and may not extend to other regions with differing cultural practices. Additionally, the subjectivity inherent in qualitative research can introduce biases through participants' and researchers' interpretations, particularly if

emotional ties or unconscious cultural biases come into play. Finally, this research relies heavily on the participation and willingness of local community members to share their experiences. Any hesitance or discomfort could restrict the depth of data collected, potentially rendering the findings less representative, especially if only a limited segment of the community participates.

Conclusion

In conclusion, the qualitative research conducted on ethnomedicine practices in Sukamulya Village, Ciamis Regency, reveals a profound connection between traditional knowledge and reproductive health maintenance. The community's enduring reliance on local medicinal plants, such as jatropa leaves, pomegranate peel, and dewa flower crown, underscores the vital role of cultural heritage in addressing reproductive health issues like menstrual pain, fertility challenges, and post-natal care. Furthermore, the integration of ethnomedicine with modern medical practices highlights the community's adaptability and resourcefulness in navigating healthcare options, providing a comprehensive approach to health management, particularly in areas with limited access to conventional healthcare services. This synthesis of traditional and modern practices not only enriches the local healthcare landscape but also exemplifies the resilience and continuity of cultural knowledge in meeting contemporary health needs.

Conflict of interest

The researchers stated that there is no conflict of interest related to the implementation and publication of the results of this research. The entire research process, from planning, data collection, analysis, to report preparation, was carried out independently without any influence or pressure from any third party. A commitment to research ethics is upheld throughout the research process, ensuring transparency, accuracy and honesty in reporting results. Respondents' participation was voluntary with informed consent, and their confidentiality and privacy were maintained in accordance with applicable research ethics standards. With this statement, researchers hope that the research results can be trusted and used as a valid reference for the development of science and health practices related to ethnomedicine and reproductive health.

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Authors' contribution

Each author contributed equally in all the parts of the research. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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