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Research Article

## Traditional Treatment of Tuju Disease (Rheumatism) in Lontar Usada Based on Bali Local Wisdom

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### ABSTRACT

Traditional medicine is a nation's culture that needs to be preserved. Globalization has caused some people to use traditional medicine as alternative medicine, especially in the province of Bali, Indonesia, which is familiar with the term usada. This study aims to identify the traditional treatment of tuju (Rheumatic) diseases in lontar usada based on the local Wisdom of Bali. Literature studies were used in the study. Identification was made by analyzing lontar, books, and journals discussing related diseases. The results obtained by traditional medicine have become a cultural heritage reflected in the existence of lontar (*Hindu* cultural records), which contain types of diseases, medicines from diseases, traditional materials, and procedures for making and presenting traditional medicine. There are thirteen types of diseases and characteristics of diseases in lontar usada. There are four ways traditional health workers acquire their expertise, including *Balian Kapican*, *Balian Katakson*, *Balian Usada*, and *Balian Campuran*. In traditional medicine practice, rheumatic diseases have three treatment techniques, namely massage (*uut*), inner energy, and the provision of medicinal herbs. The species of herbs used are Tangerine (*Citrus nobilis*), *Awar-awar* (*Ficus septica*), *Jeruju* or *daruju* (*Acanthus icifolius* L.), *Buu* Plant, Ginger (*Zingiber officinale* Roxb), *Ki Encok* (*Plumbago zeylanica* L.), *Tri Ketuka* (*kesuna*, *Jangu*, *mesui*), and *Sindrong Jangkep* (spices). Usada needs to be preserved as a local culture that can be utilized as a world cultural heritage.

**Keywords:** Lontar, Usada, Rheumatic disease (*tuju*), Local wisdom, Bali



## 1. Introduction

Language, technical systems, livelihood systems, social structures, knowledge systems, religion, and art are part of the culture. Bali's cultural heritage is reflected in the social phenomenon of society (Koentjaraningrat, 1997; Mahanta, 1995). Balinese culture is rich in information covering all aspects of life. Ancient lontar leaf scrolls include traditional Balinese healing knowledge. The text of Balinese medicine is divided into two types: *usada* and the word (Nala, 2001). *Lontar's (taw)* speech includes the teachings of anatomy, physiology, philosophy of health and suffering, *pade-wasaan* healing the sick, *sesana Balian*, and diagnostic (forecasting disease). The *Lontar Usada* provides information on how to examine patients, diagnose diseases, make drugs, treat (therapy), prognosis, and perform rituals related to preventive and curative problems (Chabib et al., 2016).

The Balian technique used to cure this condition is related to the source of the disease. According to Nala (1992) the disease is caused by two types of causation: visible, actual, and agreed-on pain and *Niskala Kausa* (pain that is invisible, real, or agreed upon). Anderson (1986) noted that diseases (etiology) can be categorized into two categories: naturalistic and personalistic in traditional societies. The human body has a delicate balance of elements called *Tri-Dosha*, which causes weakness and disease when irritated. In comparison, the causes of personalistic forms are non-human and supernatural. Bali adheres to the concept of *Tri Hita Karana*, which promotes peace between man and God, man and fellow man, and man and environment (Japa, 2008). The intellectual mind, *manah*, and creativity are influenced by the religion and culture of its environment. Disruption of the spiritual and physical interactions of the universe causes sadness (Nala, 1994).

Traditional associations, especially in Bali Province, have obtained legalization through issuing government regulation Number 103 of 2014 on traditional health services and Regulation of the Governor of Bali Number 55 of 2019 concerning Traditional Balinese Health Services (Dinas Kebudayaan dan Pariwisata, 2020; Dinas Kesehatan Provinsi Bali, 2019). This increases the flexibility of providing complementary practices in the community, maintaining the cultural heritage based on local wisdom, and improving the traditional health care system in the community (Pranskuniene, Dauliute, Pranskunas, & Bernatoniene, 2018). The concept of healthy pain is applied to this case, and pain is closely related to imbalances in the body that need to be treated, neutralized, and balanced, one of which is the disease (rheumatic). Rheumatism is synonymous with the accumulation of concoctions or toxins in the body called *ama* due to the metabolism between imperfect bones resulting in pain (Bhargwan & Suhasini, 2006). Rheumatic disease is one of the autoimmune diseases in the form of inflammatory arthritis in adult patients (Pranskuniene et al., 2018; Singh, Kaushik, Badal, & Sahoo, 2020). Pain in people with rheumatism in the synovial joints, tendons, holsters, and bursa will experience thickening due to inflammation followed by bone erosion and bone destruction around the joints to cause disability (Fraenkel et al., 2021; Yazici & Simsek, 2010). So, it needs to be overcome so as not to cause death (Karthikeyan & Guilherme, 2018).

Efforts that can be made using traditional medicine because it has low side effects and is easy to obtain and present (Mertha Adnyana, Sudaryati, & Sitepu, 2021). The high incidence of rheumatoid diseases in the community is significant to identifying the methods (Mediastari, 2020), ways of treatment, and materials used as a cure for the disease by identifying these in lontar and literature studies. In Balinese society, the treatment of rheumatic generally uses traditional medicine (Suatama, 2021). This study aimed to identify the traditional treatment of *tuju* (Rheumatic) diseases in lontar *usada* based on local Balinese wisdom. This research provides scientific information to the public and complementary health workers in handling diseases based on local wisdom.

## 2. Method

This research used observational studies with a qualitative approach (Darwin et al., 2021). The research was conducted by analyzing the manuscripts of *usada tuju* and other *usada lontar* related to traditional medicine for rheumatic diseases. The *lontar* data used has been translated into Balinese characters. The ethnomedicine approach is used to trace the procedures for disease treatment, disease history, disease cause, treatment method, materials used, and length of use. Furthermore, the finding data are supported by literature studies that discuss traditional medicine related to the traditional treatment of *tuju* disease (rheumatism). Data was collected from databases such as PubMed, Scencedirect, Emerald, Nature, and Goggle Scholars. The keywords used were “*tuju*”, “*rheumatic*”, “*traditional medicine*”, “*lontar*”, “*usada*” and “*local wisdom*”, “*Bali*”. The data that was collected was analyzed descriptively qualitatively and presented in a narrative, table, and material documentation.

## 3. Result and Discussion

### 3.1. Folk medicinal agents of *tuju* (rheumatic) diseases

Natural substances that have been treated in traditional ways are inherited and are based on prior knowledge, customs, beliefs, or local customs. A previous study proved that traditional medicine could produce therapeutic results comparable to modern drugs. Currently, traditional medicines are being researched more extensively, and their use is increasing due to their lower cost and greater accessibility (Febryantono, Siswanto, Santosa, & Hartono, 2020; Muchid, 2006). Traditional medicine is still used today since it has few side effects and can be metabolized by the body. Traditional medicine uses plant roots, rhizomes, stems, fruits, leaves, and flowers (Cahyaningrum, Yuliari, & Mediastari, 2020). Modern science has not diminished the Balinese people’s faith in traditional medicine. Bali gave birth to the *usada* system of traditional medicine. *Usada* is derived from the Sanskrit term “*ausadhi*,” meaning “healing plants”. Adiputra (2011) claims Bali inherited the *Taru Pramana lontar*’s scientific herbology. This *lontar* listed hundreds of plant species and their medicinal virtues. This study emphasized conventional medicine in treating rheumatic illnesses (*tuju*). Some *lontar-lontar usada* members refer to the disease (rheumatism) and its symptoms (Sutomo & Iryadi, 2019). Each disease has distinct characteristics, demanding a distinct medicine and therapy. There are various texts of *usada lontar* that explain the therapy of *tuju* (rheumatism). According to searches of *Lontar* manuscripts, there were several *Usada Tuju*, *Usada Taru Pramana*, *Usada Tiwang*, *Usada Pamupug Guna-guna*, *Usada Aserep*, *Usada Pangeraksa Jiwa*, and *Usada Dalem Jawi* that discussed the treatment of *Tuju* (Arsana, 2019; Dinas Kebudayaan dan pariwisata, 2012; Dinas Kesehatan Provinsi Bali, 2009; Suryadarma, 2005).

The types of rheumatic diseases (*tuju*) and their characteristics that were found there include: *Tuju Ayan* (It aches and tingles throughout the body); *Tuju Desti* (Aching and swollen body); *Tuju Gatal* (Itching at the swollen site); *Tuju Moro* (Swelling for no apparent reason and reappearing abruptly); *Tuju ngulet* (Swelling accompanied by stomach pain and a sense of being encircled around); *Tuju perut* (Swelling of the joints associated with stomach pain and discomfort); *Tuju ucing-ucing* (The body feels terrible and frequently forgets and suffers from the joints and bones); *Tuju windu* (Pain in the bones is accompanied by headaches and a constant need to sleep); *Tuju Brahma* (The body aches as if pierced, and the skin is hot and crimson); *Tuju Bengang* (Diseases that strike abruptly occur occasionally at sandikala (nightfall), rerainan (kajeng kliwon), and certain holy days); *Tuju lintah* (Bone ache accompanied by body pain); *Tuju gerah meluang* (All joints are swollen, uncomfortable, and shaking with pain); *Tuju pemali* (Human actions induce

pain that stings, stabs in the stomach, and causes constant pain sensations) (Ardiyasa, n.d.; Dinas Kebudayaan dan pariwisata, 1990; Muderawan, Budiawan, Giri, & Atmaja, 2020; Sutomo & Iryadi, 2019; Wyber et al., 2020).

There are thirteen types of diseases caused by various factors. *Tuju* disease is generally caused by others' acts (*sandikala*, *rerainan*, and specific holy days and destinations), and rheumatic (*tuju*) symptoms appear suddenly. Diseases are linked to *Desti's* concept of disease during *rerainan*. In Nala (1992), *Usada Bali*, *desti* is a mystical element that can cause illness using infected people's hair, nails, dirt, old clothes, and jewelry as a medium. Empowered eggs, water, wind, paper, and stone with magical images relating to the desired disease. It usually manifests during *Rerainan*. This shows that internal and exterior variables (scale sources) induce the targeted disease (*Niskala* factors). Unbalanced macrocosmic and microcosmic forces produce the ailment, says *Kecapi Buddhist lontar*. This sickness is classified as pain *panes*, cold, heat, or both. *Panes* (heat), *sbaha* or *nyem* (cool), or *sbaha-jampi* symptoms are used to describe diseases (*hot-cold*). Proper form (rough) *Brahma* is a flaming fire (rough), *Vishnu* is icy water, and *Iswara's* true nature is icy air. A healthy person's body temperature is in tune with *Brahma* (heat), *Vishnu* (cold), and *Iswara* (hot-cold) (Nala, 1992). People get sick when one dominates. A water-heat imbalance causes *tuju* illness (*sebha* or *nyem*). Maintaining homeostasis by supplying therapeutic herbs with *panes* (heat) characteristics is crucial. They are drawn from *God's Sang Hyang Tiga Manifestations: Brahma, Vishnu, and Iswara. Sanghyang Tiga* collects harmful and healthy substances. Triadic principles (*dukkha telu*), which include spiritual, mental, and natural causes (*adhidaiwika dukkha*), can also be used to figure out how a disease started (Nala, 2001; Suatama, 2021; Yazici & Simsek, 2010).

*Ayurvedic* medicine, which predates Balinese *usada*, says that the human body comprises three elements known as *Tri-Dosha*. They are *Vayu*, *pitta*, and *Kapha*. *Vayu* is intricately tied to the body's tools for respiration, sound production, digestion, farting, and other bodily tools. *Pitta* is the vital force that propels the heart, liver, spleen, and eyes. The body's water-emitting apparatus produces *Kapha* as fluids, water, mucus, and solutions. The equilibrium of the *Tri Dosha* elements affects the degree of health in the human body; when disturbed, pain occurs (Nala, 1994). In *tuju* (rheumatic) disorders, an imbalance of *Tri Dosha* elements occurs, causing an increase in fluid and air (*Vata* and *Kapha* elements) and a decrease in body temperature (*pitta* element). *Usada* uses plants in the form of medicinal herbs as part of its therapy. *Anget* (hot) and *dumelada* (medium) are *Taru Pramana lontar's* medicinal plants (Arsana, 2019; Gabriel, 1955; Nala, 2001; Suryadarma, 2005).

Humans have a vital ingredient known as *prana*, described in *Ayurvedic*, one of the *Hindu* religions (public health). It awakens the body and mind in the same way *prana* does by pumping blood and directing the body's organs (*dathus*) (Andrašević et al., 2009). If the body's energy is out of whack, the organs will malfunction, causing sickness. A Hindu calendar incorporates astronomical knowledge. Weather forecasts using *sasih* are possible in *Hinduism* (month). Every year between mid-June and mid-July, the wind is very fierce and the air quite frigid. This *sasih* usually brings back *nyem* rheumatic diseases. Also, because *Sasih Kepitu* occurs in January, *Hinduism* requires a regular ceremony such as *mecaru* to prevent disease propagation. Furthermore, in Bali, it is referred to as *Butha Yadnya*. *Mecaru* rites are also regularly done in response to adverse events. In the *Tri Hita Karana* worldview, to foster harmony in human interactions with *Sang Hyang Widhi (Parahyangan)*, fellow humans (*Pawongan*), and environment (*Palemahan*). This *Mecaru* ceremony is meant to impart moral and spiritual values to people and keep nature, the

environment, and its contents in balance (insight into the universe). This devotion to nature conservation is equated to *God's* body in understanding the universe and its contents. Furthermore, pray to *Ida Sang Hyang Widhi Wasa* for an irregular and *Niskala* existence for all humanity (Fransiska, 2020)

Adnyana (2020) claims that paying attention to the times may help diagnose the sickness. Afflictions or external manifestations reflect the times. While *dengen* is the bathin or magical power that accompanies a *Balian*. Thus, a Balinese can quickly discover a person's ailment using these three methods, both incidental and the *Niskala*. The approach also examines the body aura, eye rays, nails, skin, pulse, tongue and mouth, urine, and feces using chakras, *Kanda pat*, and *tenung*. With the help of *Hindu* cosmic wisdom known as *wariga*, the *tenung* technique predicts ailments emerging in the body. Scientific time (*dauh*) is believed to significantly impact species' existence, particularly humans. As a result, many variables are thought to play a role in illness.

### 3.2. Rheumatic illness treatment in traditional medicine (*tuju*)

In general, the proposer or *Balian*, who possesses significant knowledge of traditional medicine, practices in Bali. The *Balian* possesses the ability to heal the ill. The capability to address this condition is acquired in various ways (heredity, *taksu*, *pica*, learning or *nyastra*, and various other means). A *Balian* is classified into three ranks, according to Wolfgang, (1937), namely *Balian Usada*, *Balian Katakson*, and *Tukang* (assistant) healers, including *Balian Manak* and *Balian uut*. Nala (2001) claimed that a *Balian* was classified into two groups based on purpose, namely *Balian Panengen* and *Balian Pangiwa*. *Balians* are divided into four groups based on training.

1. *Balian Katakson* is a Balinese master in *taksu*. *Taksu* is a supernatural entity that infiltrates a person and alters his manner of thinking, speaking, and acting. *Taksu's* admission enables the individual to treat ailing individuals.
2. *Balian Kapican* is a person who obtains fortunate artifacts capable of healing the sick. This good creature is referred to as *pica*. By utilizing *pica*, a *Balian* can treat sickness.
3. *Balian Usada* is someone who learns about medicine intentionally, either through *waktra* teachers, on *Balian*, or through *lontar usada*.
4. *Balian Campuran* is composed of *Balian Tatakson* and *Balian pica* interested in studying *usada*. In Bali, the *Pangusada* or *balian practice tamba* therapy (*ubad*).

Two factors must be considered when manufacturing medicines through *Balian*: *Tamba* and *Serana*. *Tamba* is everything utilized to heal the sick, and *Serana* is the link between the *balian's* strength and the source of the patient's disease. *Tamba* and *serana* act as a unit to ensure that the healing process of the ill is as effective as possible. In traditional medicine, numerous therapeutic strategies for rheumatic disorders are available, including massage techniques (*uut*), inner energy, and the provision of medicinal plants (Dinas Kebudayaan dan pariwisata, 1990).

#### 1. *Uut* or massage

*Uut* or massage is a type of treatment that involves pressing, striking, or bordering the outermost layer of the skin to obtain purposes that aid in the healing process. The massage technique begins with a certificate on the painful area and its organ. The affected area's sensitive pain points/nerve node points are accelerated to empty and facilitate blood circulation.

## 2. Inner Energy

The goal of deep energy therapy is to distribute heat or fire energy throughout the patient's body to burn the disease both intermittently and permanently. Inner power can be implemented in various ways, including touching or not touching, and can be funneled from head to foot or vice versa. Dewi, Warditiani, & Leliqia (2009) and Nala (2001) showed how to eradicate disease using venom and poison using the Sang hyang Dasa aksara pronunciations of *sang*, *bang*, *tang*, *ang*, *ing*, *nang*, *mang*, *sang*, *wang*, and *yang*.

## 3. Medicinal Herbs

Generally, medicinal plants (*ubad*) are administered orally. The medications used to treat rheumatic disease may be derived from a single type of plant or a combination of plants. This is characterized by medicine that combines several different potions and is believed to exert multiple effects to overcome the ailment. In the case of rheumatic medications (*tuju*), the drugs employed are anti-rheumatic and necessary for the removal of toxins that contribute to the onset of this rheumatic disease. A potion that encourages water production is required to remove this poison, as the body's toxins dissolve in water. Thus, rheumatism must be coupled with a diuretic herb to increase urine output. Additionally, a herb that reduces inflammation, warms the body, and improves blood circulation is required. Thus, it is anticipated that each element in this mixture would operate synergistically to enhance the effects of the others and provide the maximum efficacy in curing ailments.

### **3.3 Plants that are used as traditional medicinal agents**

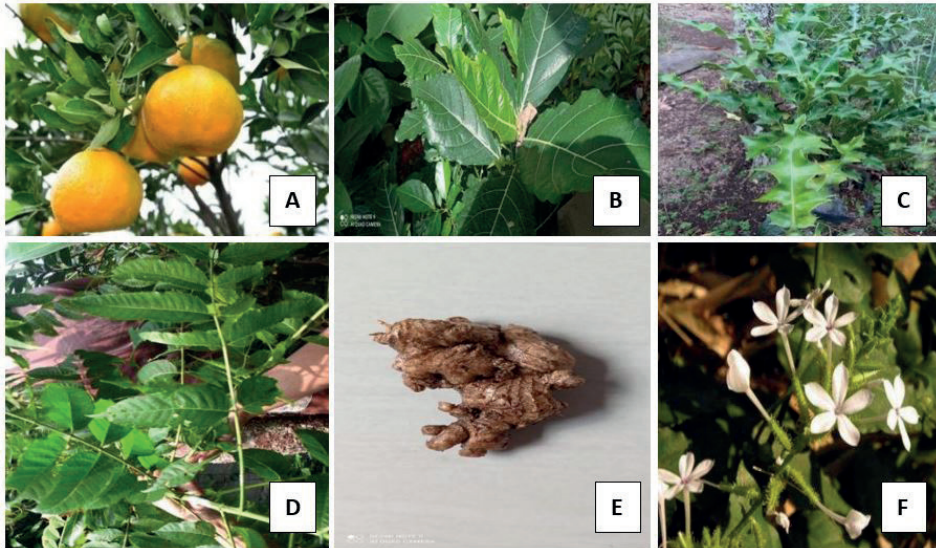
*Lontar Usada Tuju* (rheumatism) can be treated with medicinal herbs from various plants or chemicals (Chabib et al., 2016). To treat rheumatism, it can be swallowed or drunk, evaporated or upset, or affixed, like *boreh* or *parem*. *Parem* is a traditional medicine spread on the feet, hands, or other regions of the body. In the form of *loloh*, a drink prepared from plant starch that is filtered and drunk. *Boreh* or *parem* is a fine powder combined with liquids like water, vinegar, wine, or alcohol before use. There is also steam and *urap*. For example, steam is formed by vaporizing a liquid, but *Sembur* Medicine is created by chewing, pulverizing, and spraying it on a sick person. Various herbs are used for disease therapy, according to *Lontar Usada Taru Pramana* (Arsana, 2019), *Lontar Usada Tiwang* (Arsana et al., 2020) and *Usada Sasah Bebai* (Adnyana, 2020). Table 1 and Figure 1 summarizes the varieties, plant parts, and content of plants used as traditional medicinal agents.

**Table 1: Types, plant parts, and content of plants used as traditional medicinal agents**

Types of Plants	Efficacy	Source
<i>Jeruk keprok</i> ( <i>Citrus nobilis</i> )	Tangerines have heated leaves and roots, a medium sap, and are used to treat rheumatic discomfort ( <i>tuju</i> ). All parts of the plant used for <i>boreh</i> are mixed with vinegar water and three slices of ginger and applied to the afflicted area of the body.	(Dinas Kebudayaan dan pariwisata, 1990, 2012)
<i>Awar-awar</i> ( <i>Ficus septica</i> ).	<ul style="list-style-type: none"> <li>• Pain relief for <i>Tuju Brahma</i> is achieved by combining awar-awar bark with honey and water <i>asaban</i> (rub) sandalwood. The bark (<i>babakan</i>) is hot, the sap is heated, and the roots are cool. It is used to treat <i>Tuju Brahma</i> by rubbing it with honey and sandalwood water. Compared to <i>Lontar Darma Usada Cemeng</i></li> <li>• Awar-awar contains <i>Pangi</i> bark, awar-awar roots, and kitchen ash water and can be used to treat patients' feet with discomfort and swell reddened (<i>baah</i>).</li> <li>• <i>Tuju</i> is a herb made from aged awar-awar leaves, tobacco leaves, <i>Sundanese biaung</i> tubers, red sulfur (<i>walirang</i>), and <i>lempuyang</i>. The method involves acceptable scraping and a little water, and it is for the diseased area.</li> <li>• In <i>Lontar Usada Dalem</i>, awar-awar leaves treat <i>tuju</i> (joint pain) alongside yellowed awar-awar leaves, carpet tobacco leaves, <i>Sunda biawung</i> thorns, <i>galuga</i>, red sulfur, and <i>lempuyang</i> (<i>kedis gamongan</i>).</li> </ul>	(Dinas Kesehatan Provinsi Bali, 1982, 2009)
<i>Jeruju or daruju</i> ( <i>Acanthus icifolius</i> L.)	<i>Jeruju</i> roots and leaves are anti-inflammatory and anti-rheumatic ( <i>tuju</i> ). Onions and fennel are mixed to make the herb. For rheumatism, <i>berambang</i> and fennel leaves are said to be put to root decoctions and <i>jeruju</i> leaves. The surface is gently scraped before adding <i>boreh</i> water. The anti-swelling or anti-inflammatory properties of <i>jeruju</i> flavonoids (Anti-phlogistic) make it a helpful medication and a fever-reducing agent (Anti-pyretic).	(Dinas Kebudayaan dan pariwisata, 2007; Nala, 1992)
<i>Buu plant</i>	<i>Taru Pramana</i> writes in <i>Lontar Usada</i> that the bark of the buu tree has a mild effect on the roots and leaves. <i>Tuju Bengang</i> illness can be cured using the skin. Eleven slices of buu tree bark are added to the herb, thick coconut milk (Coconut Milk Kene), and lime.	(Dinas Kebudayaan dan pariwisata, 1990; Suryadarma, 2005)
Ginger ( <i>Zingiber officinale</i> Roxb)	Ginger, particularly the rhizome, has a spicy/warm flavor. Ginger essential oils contain the anti-inflammatory chemicals zingiberene, chamfer, lemonin, and zingiberol. The herb combines galangal rhizomes, turmeric rhizomes, and bangle rhizomes, which are chewed and combined with spices ( <i>sindrong jangkep</i> ), then crushed and combined with water to make <i>boreh</i> .	(Redi Aryanta, 2019)
<i>Ki Encok</i> ( <i>Plumbago Zeylanica</i> L.)	According to <i>lontar usada Taru Pramana</i> , <i>ki encok</i> leaves have heat qualities. <i>Ki Encok</i> leaves are used to treat rheumatism.	(Dinas Kebudayaan dan pariwisata, 1990)
<i>Tri Ketuka</i> ( <i>kesuna</i> , <i>Jangu</i> , <i>mesui</i> )	<i>Tri ketuka</i> is made up of three different types of plants: garlic, or <i>kesuna</i> in Bali ( <i>Allium sativum</i> L.), <i>jangu</i> ( <i>Acorus calamus</i> ), and <i>mesui</i> ( <i>Cryptocarya massoy</i> (oken) Kosterm). The application of trichotillos to the affected area alleviates rheumatism.	(Dinas Kebudayaan dan pariwisata, 1998, 2012)

- Sindrong Jangkep (rempah-rempah)
- Sindrong is a mixture of plants and other elements. Ingredients in *Jangkep Sindrong*: *ilut* (*Helicteres isora* L.), *jebugarum* (*Myristica fragrans* Hout. ), *katumbah* (*Coriandrum sativum* L.), *mes* (*piper ningrum* L.), *Musi* (*Carum capsicum* Benth), *samparwantu* (*sindora sumatrana* Miq), *sidowayah* (*Woodfordia fruticosa* (L.) (*Styrax benzoin*). *Boreh* is a cikep *sindrong*.
  - *Usada* uses plants in the form of medicinal herbs as one of its therapeutic methods. *Taru Pramana lontar* plants are *tis* (cold), *anget* (hot), and *dumelada* (medium). Ayurveda divides plants into four types: *Vanaspati* (fruit), *Vanaspatya* (flowers and fruits), *Virudh* (spreading stems), and *Ausadhi* (fruit that dries and dies). The plant material used for *ausadha* comprises roots, rhizomes, buds, stems, bark, leaves, flowers, fruit, seeds, thorns, fluids, sap, and oil.
  - Unlike modern medicine, traditional medicine has not discovered a specific dose or composition of the herb's ingredients: mentioned abstinence, its effects, and contraindications. However, when utilized for drugs other than medicinal herbs, the number is more significant but still odd for the same reason that we make or combine veggies or lawar in Bali, relying on our feelings and never utilizing regular doses. Odd numbers are believed to have divine power; they are an excellent number capable of neutralizing the ailment. Even numbers are always divided into two equal-sized fighting groups. The medicine has magical properties to balance the body's state when it is out of whack due to ailments.
  - Rheumatic medicine (*tuju*) includes medical and non-medical components such as spells. We go three times, extinct pupug puzzle, melting *gesong* colony. The mantras and abstract aspects of cleansing facilities and rituals are meant to protect the patient psychologically and encourage bathin resistance. Anti-depressant, promoter, and rehabilitator Mantras are deeply rooted in Hindu culture and revered by the community. The uniqueness of the spell in healing is believed when all medicines are spoken holy spells drawn from religious literature. *Mantras* are considered supernatural powers because they can build trust in the patient, speeding up the healing process. Numerous studies have shown that patients heal faster if they trust their treatment.
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**Figure 1: Plants used as traditional medicinal agents of rheumatic diseases (*tuju*)**

Information: (A) Tangerines (*Citrus nobilis*); (B) Awar-awar (*Ficus septica*); (C) Jeruju or daruju (*Acanthus icifolius* L.); (D) Buu Plant; (E) Ginger (*Zingiber officinale* Roxb); (F) Ki Encok (*Plumbago zeylanica* L.).

### 3.4. Application of traditional rheumatic illness treatment (*Tuju*) in the medical field

Traditional medicine is used for health maintenance and prevention, diagnosis, repair, and treatment of physical and mental diseases (Mertha Adnyana, Sudiartawan, & Sudaryati, 2022; Pranskuniene et al., 2018). In traditional medicine, patients believe that health is a delicate equilibrium of specific aspects of the human body and its surroundings. Illness occurs when the bodily, emotional, mental, and spiritual selves fail to connect. Second, conventional medicine treats the whole person rather than focusing on specific organs. Third, traditional medicine is customized (Haris Jauhari, Sofiaty Utami, & Padmawati, 2008). Table 2 shows how *lontar usada* classified symptoms, diagnosis, causes, treatment approach, and kind of medicine used to treat rheumatic disease (*tuju*) into current (medical) and traditional.

**Table 2: Summary of modern and traditional models of medicine in rheumatism (*tuju*)**

Characteristic	Medical prognosis of rheumatic diseases ( <i>Tuju</i> )	Traditional treatment of rheumatic diseases ( <i>Tuju</i> )
Symptom	Pain and stiffness in the joints, muscles, and bones Swelling and reddened skin tone	The pain is not limited to the joints and is often accompanied by headaches; it affects the entire body. Mapper abruptly and ilang abruptly, and some emerge during rerainan ( <i>kajeng kliwon</i> and other holidays)
Diagnosis	In the morning, stiff joints and surroundings that remain longer than an hour swelling of the hand joints. Above-normal levels of rheumatoid factor (FR) Tests of the blood to confirm the diagnosis	Physical examination and observation of the patient, including the aura, eye rays, nails, skin, pulse, tongue, mouth, urine, and feces.

Cause	Diet, activity patterns, night baths, alcohol consumption, illnesses, and inheritance contribute to this condition.	The factors and Niskala factors are to blame. Natural diseases are caused by causes such as temperature changes, physical impacts, and food, whereas Niskala diseases are caused by supernatural entities such as <i>desti</i> , spirits, ghosts, and magical abilities.
Treatment Methods	Corticosteroid therapy, analgesic pain medication therapy, mind-body therapy ( <i>yoga</i> ), surgical therapy, and physiotherapy	Massage ( <i>uut</i> ), acupuncture, heat therapy (warm bath, steam bath, etc.), cold therapy (cold water compresses, ice, herbs from medicinal herbs ( <i>tangerines</i> , <i>ginger</i> , <i>awar-awar</i> , <i>jeruju</i> , <i>tri ketuka</i> , <i>syndrong jangkep</i> ), religious rituals and spells
The form of the drug used	Capsules, tablets, balms	Boreh or parem, oil, loloh, steam

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Symptoms, diagnosis, causes, treatment processes, and drugs used to treat and detect rheumatic illnesses (*tuju*) have changed over time. Balinese medicine has traditionally developed from previous generations' awareness of ailments and health. Since learning occurs in a range of cultural environments each Indonesian tribe has its concept of diseases, symptoms, causes, treatment procedures, and types of medicine. Currently, modern medicine is a treatment that has been scientifically examined or tried preclinically and clinically, and the outcomes have been accounted for. Arsana (2019) stated that the Balinese people believe in the dualistic philosophy of separating causes and symptoms (*rwa bhinedha*). That is, healthy and sick, good and evil are mutually exclusive universal attitudes (*unreal*).

According to Notoadmojo (2014) health behavior is classified into two categories: healthy behavior (maintaining or improving one's health) and health-seeking behavior (trying to enhance one's health). This is the action taken by sick persons who have been exposed to health issues to heal or resolve. Also, the popularity of the treatment, whether modern or traditional, is impacted by many factors. These factors influence whether a person chooses a particular treatment. Influences include economic, religious, cultural, social, demographic, regional, and personal. Both traditional and modern medicine are influenced by society, but culture also shapes these behaviors and beliefs (Muderawan et al., 2020; Rodrigues et al., 2020). Also, because medicine's tradition is intricately related to indigenous peoples' perceptions and beliefs, people who live in remote areas are more likely to interpret health and illness through their understanding and experience of traditional disease treatment methods (Pranskuniene et al., 2018; Rodrigues et al., 2020).

One of Bali's indigenous medical knowledge systems evolved the *usada* treatment method. The use of spells, amulets, and therapeutic items was well-known (Wolfgang, 1937). Also, traditional Balinese medicine treats diseases holistically, addressing the body, mind, and spirit (soul). Bali's healing activities are based on traditional wisdom and rooted in the community's culture (Haris Jauhari et al., 2008; Muchid, 2006). The study of why people use traditional medicine to manage rheumatic illnesses (*tuju*) (Mediastari, 2020; Redi Aryanta, 2019).

1. *Trust and suggestions*, in this scenario, the aspect of trust or suggestion may persuade an individual to choose conventional medicine. The existence of solid ideas passed down through generations and suggestions from outsiders convince him of his views and optimistic assumptions and enhance his belief in traditional medicine, influencing a person to utilize traditional medicine.

2. *Affordable in general*, traditional healers do not charge a fee for treatment. Particularly in Bali, medical charges to a Balian are frequently referred to as *punia* or voluntary contributions from patients seeking treatment. This is why traditional healers are in greater demand among indigenous people, particularly those from lower-middle-income levels.
3. *Cure Rate*, traditional medicine's efficacy has been thoroughly demonstrated and even recognized. Several disorders can be cured through traditional medicine, and this traditional medicine is not limited to physical ailments but also psychic ones. This is directly tied to developing an individualized source of pain within the local community.
4. *There are minor adverse consequences*. By and large, traditional medicine has fewer adverse effects than modern medicine. Medicinal plants and traditional medicine are beneficial and safe when used appropriately, including dose, timing, method of administration, ingredient selection, and adaptations for specific conditions.

#### 4. Conclusions

Rheumatic illnesses (*Tuju*) have their nomenclature, features, and treatments in Bali. The local inhabitants' severity and degree of presentation are divided into thirteen aspects. Traditional medicine is based on hereditary traditions, experiences, and talents that have been documented and passed down through centuries. Massage (*uut*), inner energy, and herbal remedies are all used in conjunction with spells. *Awar-awar* (*Ficus septica*), *Jeruju* or *Daruju* (*Acanthus icifolius* L.), *Buu Plant*, *Ginger* (*Zingiber officinale* Roxb.), *Ki Encok* (*Plumbago zeylanica* L.), *Tri Ketuka* (*kesuna, jangu, mesui*), and *Sindrong Jangkep* (*spices*) are all traditional medicinal agents. Symptoms, diagnosis, causes, treatment methods, and drugs used to treat and detect rheumatic illnesses vary between medical and traditional remedies. Traditional medicine is popular in Bali because it is affordable, effective, and has few adverse effects. The community's role in building and preserving indigenous Balinese wisdom for disease treatment is expected to be studied in the future, along with the importance of identifying plants used by indigenous ethnobotanists and ethnomedicine in Bali.

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