



TRADITIONAL MEDICINE FOR CHILDREN IN VANUATU: SURVEYS ON THE ISLANDS OF SANTO AND EFATE

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WHAT ROLE DOES TRADITIONAL MEDICINE PLAY IN VANUATU?

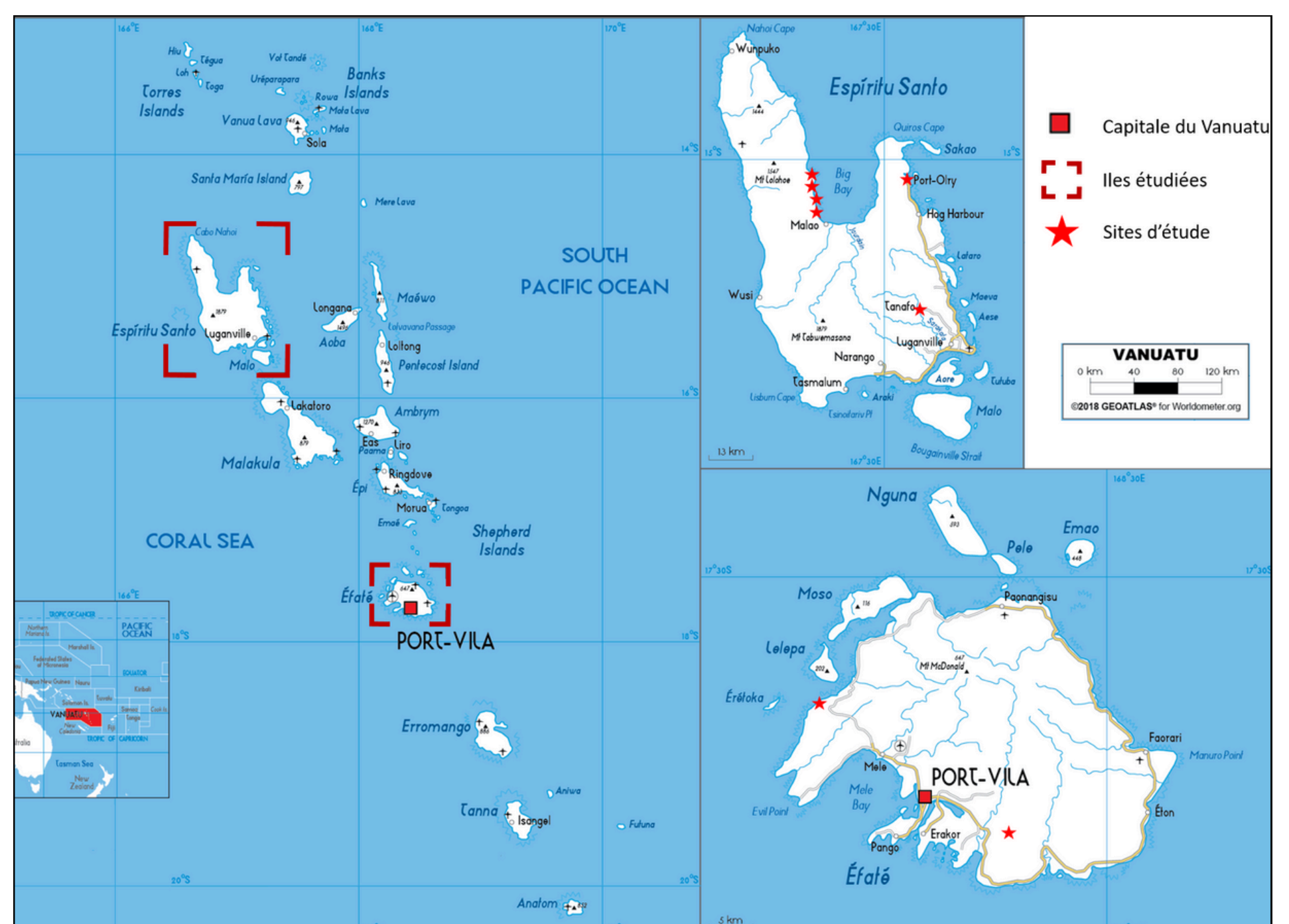
Vanuatu is a Pacific archipelago composed of approximately 80 islands. With its mountains, tropical forests, and a climate ranging from very humid to drier conditions, it is home to a highly diverse flora. It is estimated that over 2,500 species of vascular plants are present, more than 700 of which are used in traditional medicine. However, despite this botanical richness, the country's medicinal flora remains far less studied compared to its neighbors, such as New Caledonia or Fiji.

Vanuatu's healthcare system is managed by the Ministry of Health and is based on a network of six hospitals, 38 health centers, and 104 dispensaries, supported by non-governmental organizations. However, the dispersion of the population across numerous islands complicates access to healthcare, making medical infrastructure difficult to reach, particularly due to transportation costs.

In this context, traditional medicine—referred to as “*kastom meresin*” (from custom medicine) or “*lif meresin*” (from leaf medicine)—plays a fundamental role, especially in rural areas. This practice is acknowledged in Vanuatu's legislation, specifically in the Health Practitioners Act, which legally recognizes customary healing or traditional medicine under Article 17.

Thus, rather than being opposed to one another, Western medicine and traditional remedies often complement each other to meet the population's healthcare needs.

Numerous ethnobotanical studies have been conducted in Vanuatu, exploring the use of medicinal plants on several islands: Espiritu Santo (Queyrel & Moranne, 1998), Malekula (McCarter & Gavin, 2015; Simeon, 1979), Tongoa (Shirakawa, 1999), Erromango (Cabalion, 1986), and Banks (Vienne, 1981). Additionally, screening of 300 indigenous plants has revealed antiprotozoal, antifungal, and antimycobacterial properties (Bradacs et al., 2010). Other research has focused on the use of medicinal plants by women during pregnancy, childbirth, and for birth control (Bourdy & Walter, 1992; Bourdy et al., 1996). However, no study has yet specifically addressed the management of children's health within traditional medicine.



CHILDREN: A POPULATION TREATED WITH MEDICINAL PLANTS

What about children? Traditional remedies are commonly used to treat childhood illnesses, yet their efficacy and safety remain poorly documented. Infants and young children represent a more vulnerable population and are particularly susceptible to adverse effects from certain treatments, including those based on medicinal plants.

OUR PROJECT

To better understand these practices, a study was conducted on the islands of Espiritu Santo and Efate. Its objective: to list the remedies used for children aged 0 to 12 years, evaluate their benefits and risks, and explore how traditional medicine could be better integrated into healthcare for children.

A FIELD SURVEY

The study was conducted in several villages far from healthcare facilities, where traditional medicine is commonly practiced. Seven students from the National University of Vanuatu interviewed local residents and traditional healers about their knowledge and collected plant samples.

Each interview gathered information on:

- The profile of participants (age, gender, language, occupation, healer status, etc.),
- The most common illnesses among children,
- The plants used to treat them,
- The methods of preparation and administration of remedies.

PLANTS IDENTIFICATION

The plants mentioned were collected and photographed in their natural environment with the help of informants. The samples were then identified by experts from the Department of Forestry in Port-Vila and incorporated into their herbarium.



ETHICAL CONSIDERATIONS

This study was conducted in compliance with Vanuatu's regulations. A research permit, issued by the Vanuatu National Cultural Council, the Department of Environmental Protection and Conservation, and the Department of Forestry, was obtained by the National University of Vanuatu before the project began. The information collected was only that which was freely shared by the residents. Researchers respected knowledge considered taboo or reserved for specific communities. Before each interview, participants gave their consent by signing a consent form.

WHO ARE THE PEOPLE INTERVIEWED?

A total of **73 people** participated in the study: 24 in Efate and 49 in Espiritu Santo. Most were women (54% in Efate and 67% in Santo), with an average age of 47 years in Efate and 44 years in Santo. This reflects the central role of women in child care and the transmission of medicinal knowledge within families. However, this result may also be linked to the fact that interviews were conducted at home, where women were more often present than men, who were often occupied with outdoor activities.

Our study focused only on the “*hila*”, distinguishing them from non-specialists, i.e. individuals who know certain medicinal recipes but are not recognized as traditional healers. This distinction, while useful, remains partial, as the boundary between experts and non-experts is blurred; rather, there is a broad range of levels of knowledge, rather than a clear separation between specialists and amateurs.

Characteristics	EFATE - Number of informants	SANTO - Number of informants
Gender		
Male	11	16
Female	13	33
Age		
19-30 years	3	13
31-50 years	11	18
51 years and plus	10	18
Education		
None	2	4
Primary education	4	23
Secondary education	16	22
Higher education	2	0
Activity		
No activity (retired or at home)	9	9
Farmer (subsistence or commercial)	5	9
Employed	4	2
Type of informants		
Hila	2	22
Non-specialist	22	27

PRACTITIONERS OF TRADITIONAL MEDICINE: “HILA” AND “KLEVA”

Traditional medicine in Vanuatu relies on knowledge passed down through generations and practiced by both recognized specialists and individuals with basic remedies. Two categories of traditional healers are often mentioned: “*Hila*” (from healer), who are recognized as therapists by their community and intervene beyond their family circle, and “*Kleva*” (from clever), who are known for their extensive knowledge of plants and serious illnesses, and whose practices are sometimes associated with supernatural abilities. In 2012, the World Health Organization (WHO) estimated that there were around 200 traditional healers in Vanuatu.

Our study highlights a marked difference in the distribution of traditional healers (*hila*) between the studied islands. In Efate, only 2 informants out of 24 are recognized as “*Hila*”, while in Santo, 22 informants (45% of the sample) were identified as such. This disparity can be explained by:

- **Rural/urban environment:** the transmission of traditional knowledge is stronger in rural communities of Santo than in the more urbanized Efate.
- **Access to healthcare:** in Efate, the proximity of healthcare infrastructure may reduce reliance on traditional healers.

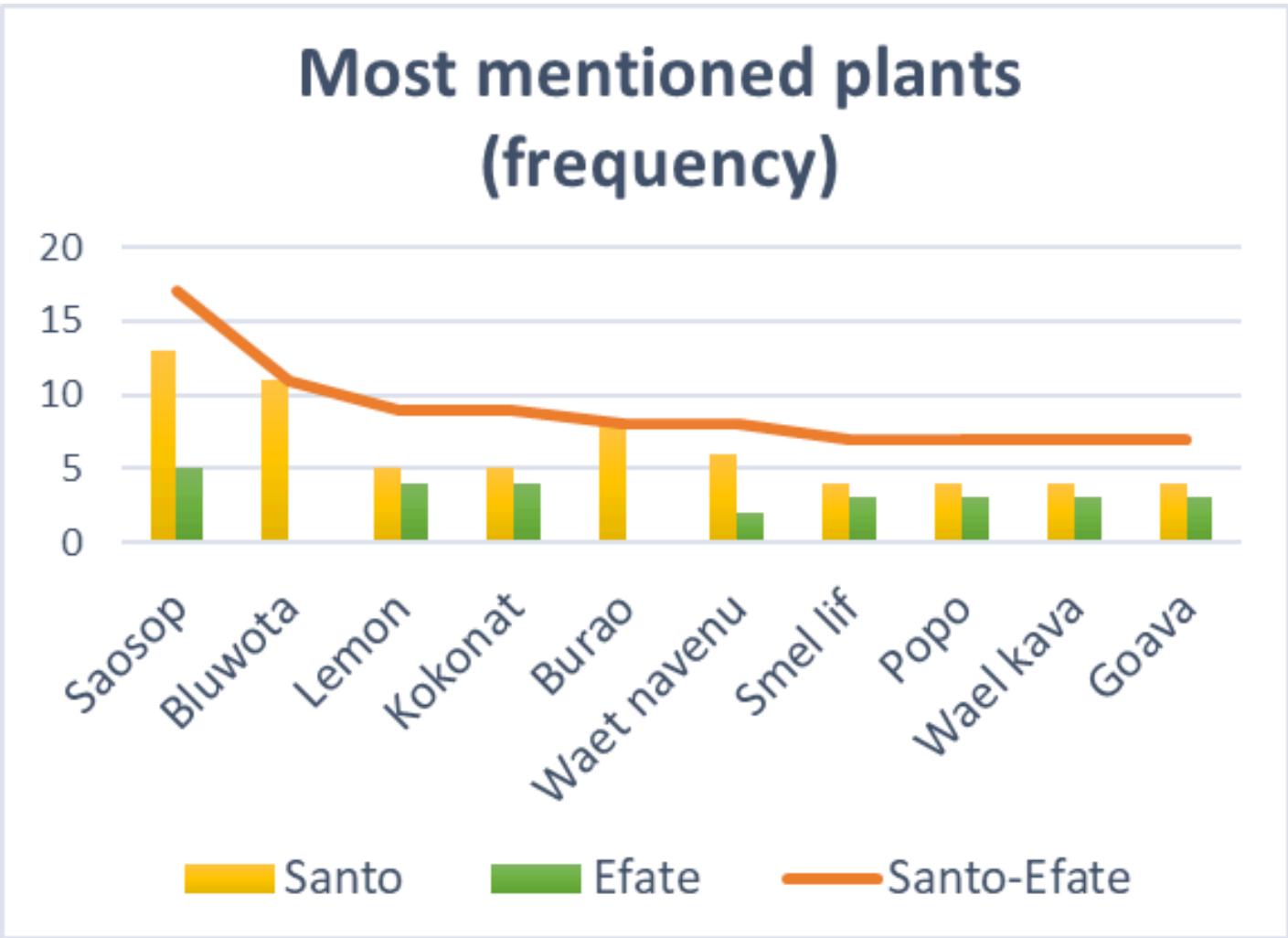
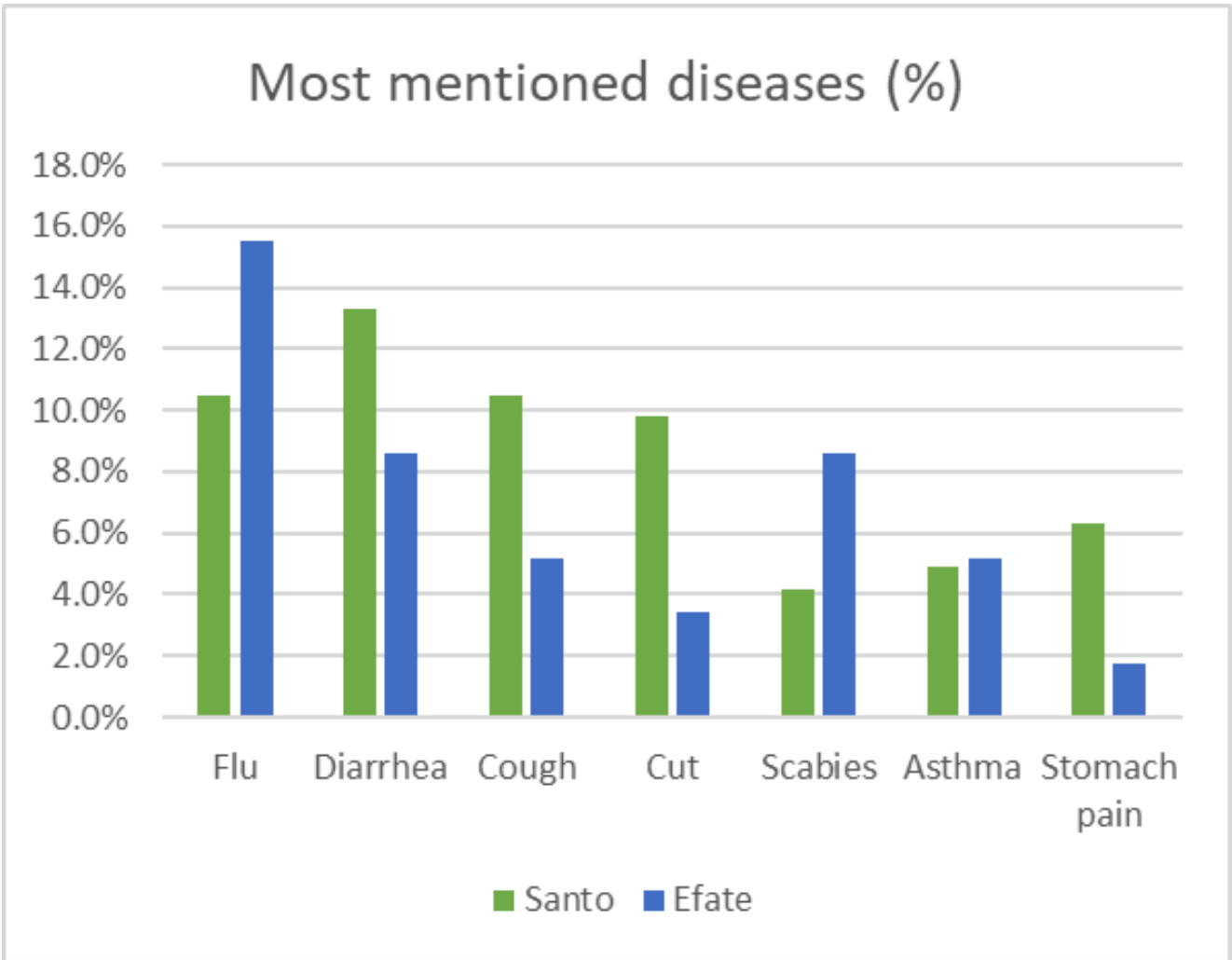
THE MOST COMMON CHILDHOOD DISEASES

The study identified **40 illnesses** affecting children, grouped into nine major categories. Among them, two types of health problems occurred most frequently: respiratory illnesses (such as cough, flu, and asthma) and digestive disorders (diarrhea, stomach pains).

On the island of Santo, diarrhea is the most frequently mentioned condition treated by traditional medicine (13.3% of cases), followed by cough and flu (10.5%), cuts (9.8%), and abdominal pain (6.3%). In Efate, the flu is the most common (15.5%), followed by diarrhea and scabies (8.6%).

Why are these illnesses so widespread?

- **Respiratory infections** are favored by rural living conditions: houses are often small and poorly ventilated, with dirt floors, and the smoke from wood fires used for cooking exacerbates lung problems.
- **Digestive disorders**, such as diarrhea, are linked to an increasingly processed diet (rich in fats, sugars, and poor in nutrients) and limited access to drinking water and sanitation infrastructure.
- **Skin diseases**, such as scabies, thrive in a hot and humid climate, worsened by precarious living conditions and poor-quality water. Worldwide, Vanuatu is one of the five countries most affected by scabies, with a high prevalence of the disease, especially among children aged 6 to 10 years.



REMEDIES AND PRACTICES

During the interviews, **207 remedies** were recorded (145 in Santo and 62 in Efate), of which 187 are unique. Most remedies rely on the use of plants (239 mentions), followed by a few natural products such as coconut oil, "Chinese soap", breast milk (used for conjunctivitis), seawater, and black volcanic stone.

The majority of remedies are simple: 149 contain only one ingredient, and the most complex ones include four ingredients.

MEDICINAL PLANTS USED

A total of **99 plants** were recorded, of which 82 were identified. The most frequently mentioned plants are soursop, "saosop" [*Annona muricata*] (18 mentions, 7.6%), nara, "bluwota" [*Pterocarpus indicus*] (11 mentions, 4.6%), lemon, "lemon" [*Citrus x limon*] (9 mentions, 3.7%), coconut, "kokonat" [*Cocos nucifera*] (9 mentions, 3.7%), sea hibiscus, "burao" [*Hibiscus tiliaceus*] (8 mentions, 3.3%), parasol leaf tree "waet navenu" [*Macaranga tanarius*] (8 mentions, 3.3%), papaya, "popo" [*Carica papaya*] (7 mentions, 2.9%), lacy lady aralia, "smel lif" [*Euodia hortensis*] (7 mentions, 2.9%), false kava, "wael kava" [*Piper latifolium*] (7 mentions, 2.9%), and guava, "goava" [*Psidium guajava*] (7 mentions, 2.9%).

Among these plants, 47 are introduced, 34 are indigenous, and 1 is endemic to Vanuatu, "Vanuatu tiare" [*Gardenia tannaensis*].

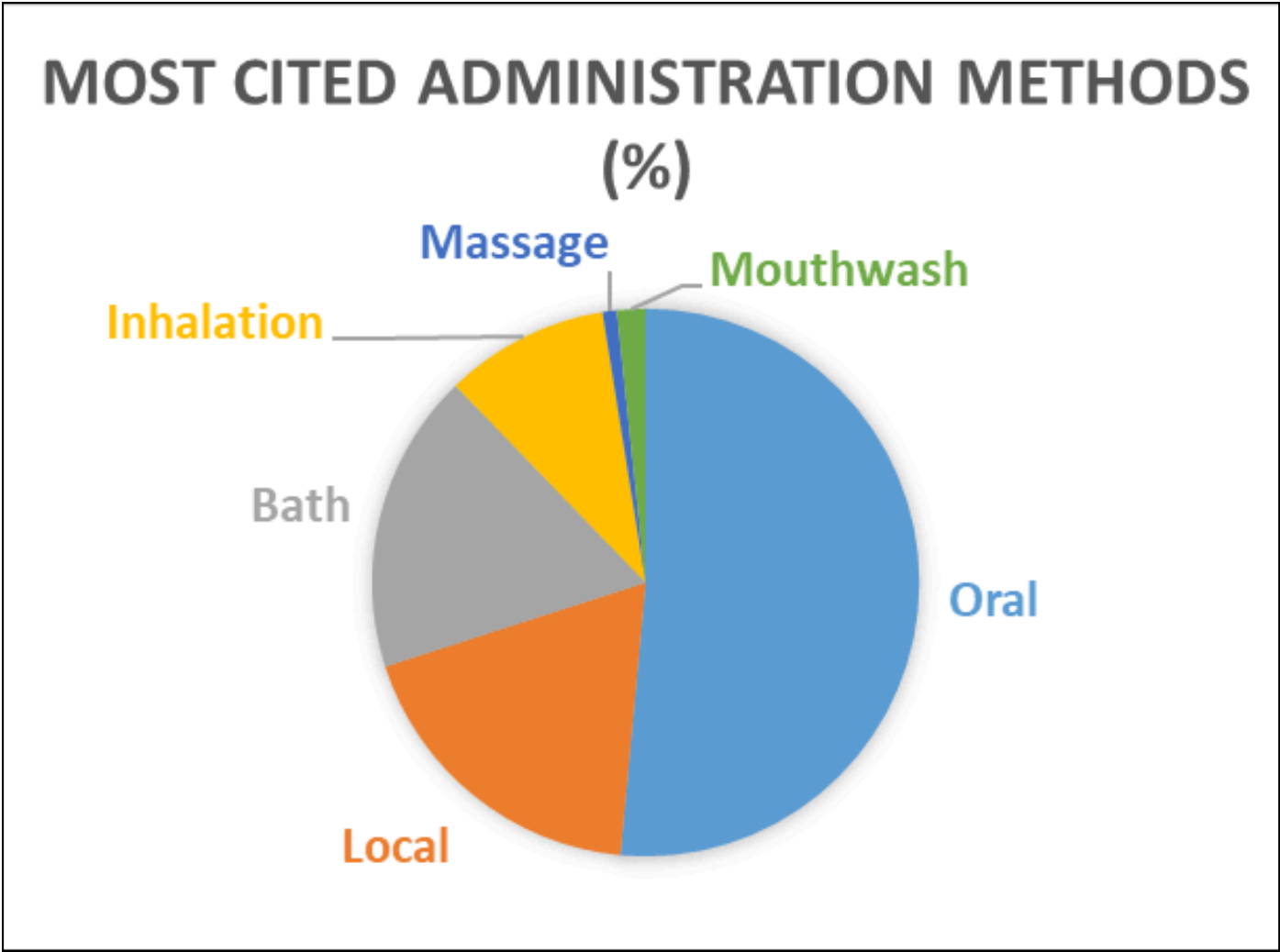
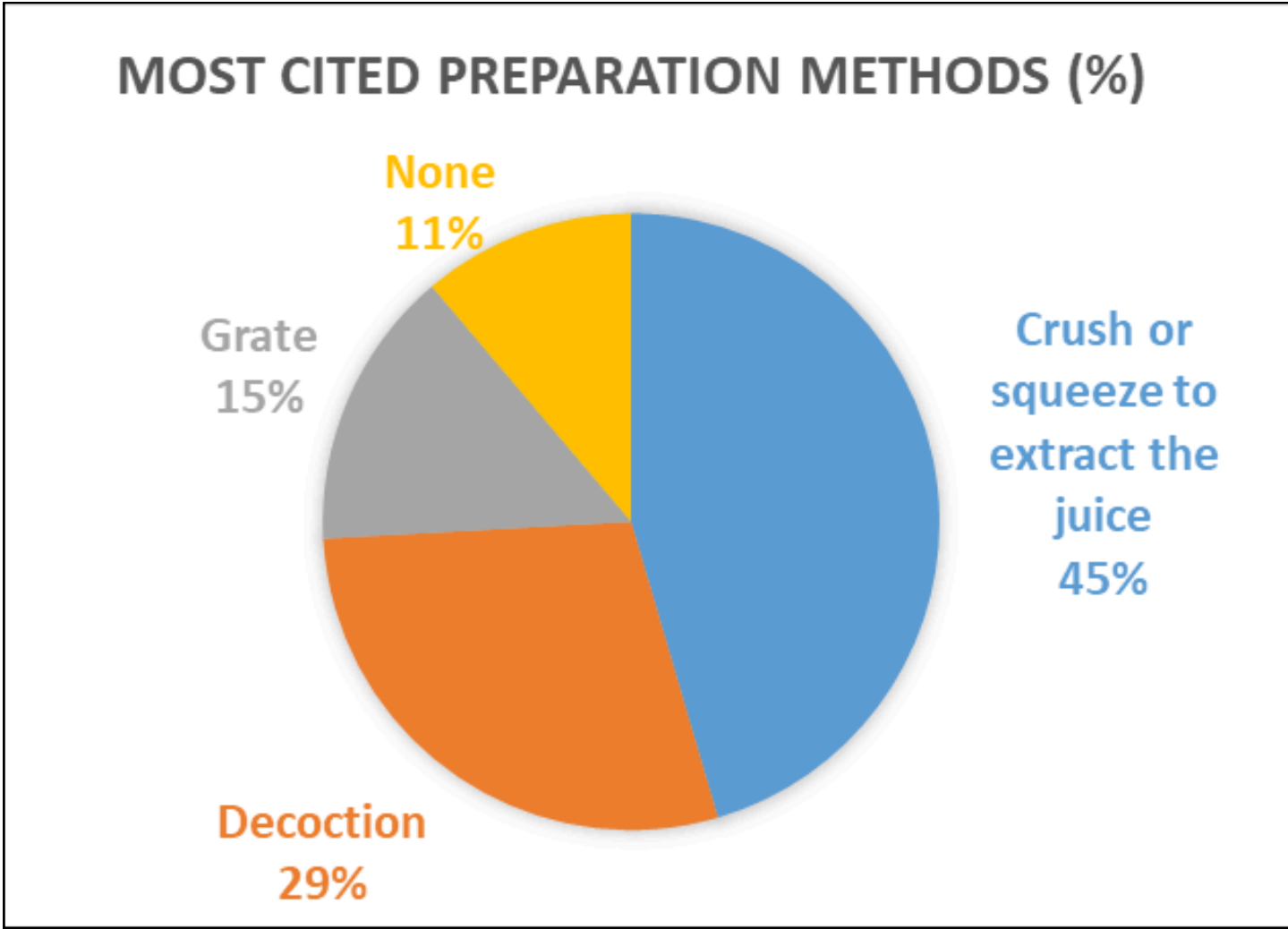
Of the 99 plants, the most commonly used part of the plant is the leaf, followed by the bark, roots, and fruits. This predominance of leaf usage in traditional medicine corresponds to findings in other ethnobotanical studies in the region and is also reflected in the local name for traditional medicine, "lif meresin".

PREPARATION AND ADMINISTRATION METHODS

The most common preparation methods include **crushing** or **squeezing the plants to extract the juice** (36.6%), followed by **decoction** (33.3%). Less frequently, the direct use of the plant **without preparation** accounts for 12.3%.

Plants are generally used fresh and without preservation, as they are available year-round.

As for administration, the majority of remedies are taken **orally** (51.5%), followed by **local application** (18.6%), **baths** (17.7%), and **inhalation** (9.7%).



BENEFIT-RISK BALANCE OF THE MOST FREQUENTLY CITED PLANTS

1

SAOSOP, KOROSOL
(*Annona muricata* L.)
18 mentions (13 in Santo ; 5 in Efate)
Parts used: leaves

Use in our surveys: the leaves are used, mainly for treating the flu (44%), but also for treating scabies (22%), chickenpox (17%), cough (11%), and kidney problems (6%). Remedies involve a decoction of leaves, often combined with other plants (“*smel lif*”, “*lemon*”, “*guava*”, and “*noni*”), administered in baths or inhalations.

● **Benefits:** anxiolytic and sedative properties, antiparasitic and anti-inflammatory.

● **Risks:** excessive consumption of the leaves and fruits could be neurotoxic due to the presence of alkaloids called acetogenins. Further studies are needed to confirm the safety of remedies using this plant in children.



2

BLUWOTA (*Pterocarpus indicus* Willd.)

11 mentions (Santo only)

Parts used: bark (45%), leaves (45%), latex (10%)

Use in our surveys: the inner bark of bluwota is widely used in remedies. This is the soft part of the trunk located under the first layer of bark, which is pressed to extract the juice, then diluted in a bit of water. This solution is administered orally to treat stomach aches and gas. The leaves are also used, primarily in decoction before being administered orally (for diarrhea) or in baths (for body aches). For headaches, the leaves are consumed directly. Lastly, the latex of bluwota is mentioned once for local application to treat thrush.

● **Benefits:** confirmed antimalarial, antidiarrheal, and antiviral properties of extracts from the leaves, wood, bark, roots, and red sap of *P. indicus*.

● **Risks:** leaf extracts are considered non-toxic, but the safety of the bark, the most used part, has not yet been studied, especially in children.



3

LEMON (*Citrus x limon* (L.) Osbeck)

9 mentions (5 in Santo; 4 in Efate)

Parts used: leaves (67%), fruits (33%)

Use in our surveys: the leaves are often combined with those of other plants (“guava”, “smel lif”, “noni”, “saosop”) in decoction for baths and inhalations, mainly for cases of the flu but also for chickenpox. Lemon juice is also cited as a remedy for cough (mixed with ginger), constipation (with coconut water) for oral administration, and for scabies (massaged with coconut oil).

● **Benefits:** the essential oils in the fruits and leaves provide antibacterial, anti-inflammatory, and antioxidant properties, also attributed to the high content of flavonoids and vitamin C in the juice.

● **Risks:** as with all remedies, administering excessive doses can cause toxicity in humans.





4

KOKONAT (*Cocos nucifera* L.)

9 mentions (5 in Santo ; 4 in Efate)

Parts used: water (89%), bark (11%).

Use in our surveys: “kokonat” is primarily used for cases of diarrhea, coconut water is for example mixed with the latex from breadfruit, “bredfrut” (*Artocarpus altilis*) and administered orally. Its bark is also prepared in decoction and drunk to relieve cystitis.

● **Benefits:** coconut water, due to its rich nutrient composition and rehydrating properties, helps prevent dehydration caused by diarrhea.

● **Risks:** its known dietary use makes it safe for children as long as the doses are respected.

5

BURAO (*Hibiscus tiliaceus* L.)

8 mentions (Santo only)

Parts used: leaves (62%), bark (38%).

Use in our surveys: “burao” is used in traditional medicine to treat various conditions. The upper part of the bark is used in decoction, either in a bath to treat scabies or orally for cystitis. The tender part beneath the outer bark is pressed and applied locally to fresh cuts. The leaves are mainly pressed to extract the juice, which is then drunk for diarrhea, the flu, or cough.

● **Benefits:** the leaves and bark of *H. tiliaceus* show antibacterial and analgesic activity. The leaves also have anti-inflammatory properties.

● **Risks:** toxicity studies on this plant are limited, but available research suggests relatively low toxicity at therapeutic doses. However, excessive doses could potentially lead to undesirable effects, such as allergic reactions or other side effects in sensitive individuals.



6

Waet navenu (*Macaranga tanarius* (L.) Müll.Arg.)

8 mentions (6 in Santo ; 2 in Efate)

Parts used: bark (62%), leaves (38%)

Use in our surveys: like “*bluwota*”, it is the inner bark of waet navenu—the soft part of the trunk beneath the first layer of bark—that is pressed to extract the juice. The juice extracted from the bark or crushed leaves is mainly consumed by children suffering from diarrhea, but also from the flu and cough. The juice extracted from the crushed leaves can also be applied locally for thrush or fresh cuts.



● **Benefits:** antibacterial properties (against Gram-positive bacteria), antimalarial, and antioxidant effects.

● **Risks:** few toxicological data are available to date, and further studies are needed to confirm its safety in children.

TRADITIONAL MEDICINE IN VANUATU: A HERITAGE TO PRESERVE, A FUTURE TO SECURE

Among the 6 most frequently cited plants, 2 are considered safe (“*kokonat*”, “*lemon*”), 2 may be toxic (“*saosop*”, “*burao*”), and 2 lack data (“*bluwota*”, “*waet navenu*”). Although some of these have known medicinal uses, there is not enough research, especially in children, to guarantee their safety. It is worth noting that 4 of these plants (“*kokonat*”, “*lemon*”, “*saosop*”, “*bluwota*”) are also consumed as food, which suggests some level of safety. However, the lack of data on the toxicity of certain plants mentioned in our study, such as “*wael kava*” [*Piper latifolium*], known for its potential hepatotoxic risks, highlights the need for better documentation and increased awareness of possible dangers. It would be useful to include prevention messages about toxic plants within local communities.

Thus, the study of traditional medicine in Vanuatu reveals a wealth of practices, particularly in Santo, where access to conventional healthcare remains limited. It is often the first resort in Santo, where healthcare access is more restricted than in Efate.

Predominantly practiced by women, it relies on the use of plants, especially leaves. The majority of the cited plants are introduced species, indicating the influence of contact with other peoples and regions on the traditional pharmacopeia and its dynamic evolution in Vanuatu.

In this regard, a collaborative approach between traditional healers and healthcare professionals could pave the way for a more inclusive and holistic form of medicine, preserving cultural heritage while strengthening research on the efficacy and safety of remedies, particularly for children. Could this fusion of ancient and contemporary knowledge be the key to sustainable and accessible healthcare for all, while preserving local specifics in the face of global public health challenges?



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