

Traditional Wisdom and Intergenerational Learning on the Use of Contraceptive Plants in Traditional Aymara Medicine

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ABSTRACT

The social and cultural characteristics of Aymara families are still traditional, both in daily life and in their relationship with other communities in the region. In particular, the subject of this study, reproductive health and disease care are addressed using cultural procedures and resources provided by nature, obtained and passed down through generations to the present day. These practices include beliefs, the practice of values, the meaning of myths, and the rituals involved in healing. Local specialists in traditional or natural medicine, such as yatiris, qulliris, usuyiris, and phiscuris, provide these services, have, over time, refined, and strengthened their knowledge and healing methods. The research objective was to identify contraceptive plants to prevent pregnancy, given the living conditions of these populations, including Wila layu, Sasawi, and Marancela. These plants, when used correctly, help in the treatment of illnesses related to women's reproductive health. A qualitative method was used for this purpose. The techniques employed were interviews, case studies, and a prior literature review. In summary, families in Aymara communities use a variety of medicinal plants to prevent pregnancies and some related illnesses, maintaining the knowledge and wisdom passed down from their ancestors, particularly regarding parts of the plant: leaves, flowers, and roots, although the entire plant can be utilized. Indeed, this empirical approach reinforces the therapeutic practice, through which women in these families achieve care and recovery of their reproductive health.

Keywords: Culture, contraceptive medicinal plants, traditional medicine, beliefs and illnesses.

INTRODUCTION

In the epistemology of medical anthropology, or the anthropology of health, a number of terms have been proposed for studying how traditional populations pursue self-healing: ethnoscience, ethnobiology, ethnozoology, ethnobotany, ethnomedicine in short, everything that encompasses the knowledge or folk wisdom of humankind regarding health, production techniques, economics, or spiritual well-being. This is an ancient practice, and these procedures are still used today in the absence of modern medicine. Without a doubt, traditional healing is the realm of culture, because it is culture that acts with all its elements in pursuit of the stability of the human organism. Indeed, folk wisdom is the ultimate goal of human experience in the construction of one's own humanity, through knowledge of everything that surrounds us—that is, recognition derived from doing and knowing, as we become aware of its usefulness for our benefit, which anthropologists call culture.

This process began thousands of years ago with the exploration of the territory, through which boundaries or borders were established. These were the first territorial delimitations resulting from long migrations, many of which have defined the limits of ethnic groups to this day, also known as kingdoms, major and minor chiefdoms,

land grants, encomiendas, corregimientos, partidos, districts, provinces, and other equivalent entities. With the exploration of the territory came the knowledge of plants, animals, geographical features, and everything that occurs on the Earth's surface, assigning names based on their use and the benefits they provide to humankind. In this way, we witness the development of culture through the naming of plants used for food, medicine, or fragrance. There are also forbidden plants that, for some reason, are either extremely beneficial or harmful, leading us to consider the “taboo of plants”, in this case, those used to control pregnancy. In this environment of recognizing what is good and bad, much time has been dedicated, but there are positive results, sustained to this day, despite indifference and modern science.

Therefore, it is indeed possible to speak of a culture of plants used to control and prevent pregnancy, stemming from the social situation in these societies with still-traditional cultures. It is neither primitive nor savage; it is the result of a whole process of deeply understanding nature. It is similar to the work of scientists, such that those privileged with knowledge of folk wisdom were the first scientists whose work remained relevant throughout the years, up to the modern era in which university-trained scientists gained hegemony and considered themselves masters of the world, disregarding (to say the least) the traditional knowledge and wisdom held by specialists in traditional medicine, the so-called “*yatiris*” (wise men), “*qulliris*” (healers), “*pbiskuris*” (bone setters), or “*usuyiris*” (midwives).

Apparently, this is where the controversy begins, sometimes shrouded in disdain, mistreatment, marginalization, and persecution. Because it's believed that science is science, and belief in plants is just common folk nonsense. However, belief is culture, and the culture of plants is something that humankind has used, improved, and respected since the past, even when scientific validation hasn't yet been achieved. This validation recognizes the active principles of each plant and how they act on the human body, as in the study “Leaves, Flowers, and Roots in Traditional Medicine for their Scientific Validation” (2016), or the study on “Chachacoma”, conducted by a virologist from Puno (Ma. Del Carmen Valdez), which indicates that it controls pneumococcus. And it's true, because these leaves, when taken as an infusion after steeping in boiling water for about 10 minutes, do control colds.

In another study published in “Ethnography of Healing” (2017), and even in the book “Medical Anthropology” (2007), it has been proposed how culture becomes medicine. That is, this age-old knowledge—the culture of plants, the culture of food, and any other activity—has become part of the daily life of the population. Culture is a way of life, in any population, large or small. It is composed of a series of elements that give meaning to life, to culture: beliefs, habits, symbols, knowledge, fantasies, ideas (ideologies), values and attitudes, technical norms, and activity patterns. Each of these elements is related to the others and to society. It is worth noting that culture, with all its elements, is what individuals produce, and society is the set of organized individuals who produce the culture they sustain, whether traditional or modern.

Indeed, science begins with belief. If a scientist doesn't believe in what they do, they're just wasting their time. A true scientist doesn't waste time and focuses on their work to achieve their goals. People of the past did the same, but they go unrecognized because most are unaware of their accomplishments. This is why we say that the archetypal Aymara, or Paleo-Aymara, was observant, tirelessly dedicated to recognizing the value of things, and knowledgeable about their properties, as evidenced by the facts: place names, plant names like *wila layu*, *sasawi*, *chachacoma*, and *quishuara*, or even natural phenomena themselves. And yet, this great man didn't bother patenting his discoveries, unlike today's rudimentary businessmen who want to patent everything they find. Incidentally, several years ago, in a small book we published, “Medical Anthropology”, we proposed the need to acknowledge the origins of the biogenetic resources of the Aymara world, because it is the Aymara people who discovered and made possible the use of each element, each plant, since it is not in this territory where plants, flowers, and even animals are preserved. Just think about the names and surnames of each individual.

But of course, the past is the past. Everything has been achieved in order to solve life's problems, such as health or regulating and preventing conception, even though, apparently, this avoidance is recent, possibly only about five hundred years old, since for most of that time the Aymara world was highly populated, which means there were no restrictions on pregnancy. Not to mention preventing pregnancy; this was impossible, which we presume brings us closer to animal nature, including pregnancy in girls as young as thirteen. Spanish chronicles detail these events, how from the time of their first menarche, young women were forced to marry. Doesn't this way of reaching reproduction have an animalistic connotation? For example, there are the terms “Hatha” or “Achu” (family and community). Thus, human reproduction was on the rise, to the point of supporting a large population throughout the province of Chucuito, especially, for which resources began to become scarce, forcing an uncontrollable migration towards the coast and the cloud forest.

If this is the case, we are certain that women in traditional societies, in our case the peasant communities of both the Aymara and Quechua regions, maintain a secret culture of contraceptive plants. It is a relatively recent secret culture (approximately half a millennium old), because no one likes people to know how they prevent pregnancy after a man, husband or not, has sex with them, whether by force or with consent. This is what

commonly occurs, and sometimes during festivities. Even herb vendors maintain this secret, this knowledge. All the sexual relations to which women are subjected are kept secret, including those involving girls and the well-known rapes that, in the past, were commonplace, considered normal. Pregnancies and sexual relations resulting from amorous or clandestine encounters are kept secret. Sometimes, these behaviors are covered up with justifications or stray excuses to avoid creating problems or conflicts. This explains the stories and beliefs about the snake that enters a woman and causes her to become pregnant. There's also the story of the condor that steals the young shepherdess, the lizard that falls in love with the young woman, the fox, and so on. Incidentally, abortion was considered a crime, not permitted, and punishable by death in ancient society.

METHOD AND MATERIALS

The method used was qualitative, essentially ethnographic, which allows for the description of behaviors, events, attitudes, and habitual practices to explain and understand the nature of a culture's use of contraceptive plants and to learn about their healing properties. In the case of traditional reproductive health medicine, it is necessary to combine ethnography with other methodologies and laboratory techniques to demonstrate the active principles of the ingredients used. For example, ethnobiology, which involves "popular knowledge of natural history", according to which work is done to obtain the raw material, preserve it, and process it in the laboratory. Finally, traditional use, but it is necessary to know how it reacts in the female body and its effects. All that is known is that careful use controls fertilization.

From this perspective, the act of naming, knowing, describing, or classifying constitutes a true culture, even though it gives rise to a set of more specialized doctrines or disciplines. However, the act of naming and classifying began many years ago. Traditional medicine requires the input of anthropology, biology, botany, zoology, and chemistry or biochemistry, as it is an extremely complex system. The use of a plant requires not only cultural knowledge but also knowledge of biology and other disciplines.

In this study, interviews, observation, case studies, and bibliographic analysis were used. These instruments were employed in fieldwork to gather information from families and traditional medicine specialists. The botanical and biological characteristics of the plants were identified, along with their traditional uses by families for reproductive health and the treatment of various illnesses in the Puno region. The methods of use and the specific ailments for which these plants are used were also documented. For this purpose, the following plants were collected: Kimsa k'uchu, Wila layu, Sasawi, and Marancela. These plants were then dried using traditional methods in the shade. Subsequently, with the help of specialists, we experimented with preparing various brews and infusions from these plants, which are administered to women for body care and, in particular, for preventing pregnancy.

RESULTS AND DISCUSSION

Study Area

The study area is limited to the peasant communities of the Juli district, Chucuito province: Choccoconiri, Chiara Uyu, and Sorapa. It also includes the peasant community of Ingenio in the Huacullani district, also in Chucuito province, and the town of Conduriri in the El Collao province.

Characteristics of Plants

The plants known as "kimsa k'uchu," "Wila layu," "Sasawi," and "Marancela" grow in the highlands of the communities of Juli (Choccoconiri, Chiara Uyu, Sorapa, Conduriri, among others). These plants are harvested during the rainy season (January, February, and March) each year. Specifically, they grow very close to stone walls (canchones), animal roosts (Andean camelids), near hillside rocks, in river basins, springs, and areas of grassland that have not yet been grazed by families. Within the community, there are people knowledgeable about the healing properties and uses of these plants, commonly called medicinal herbs. These experts are known as traditional medicine specialists. Furthermore, these local specialists know where to find the plants, their uses, their properties, and the purposes for which they are used, as well as the necessary precautions for those who are ill. Generally, the plants are used in infusions to prevent pregnancy in women of reproductive age. It's worth noting that this knowledge has been passed down from generation to generation in each community.

In the specific case of the town of Conduriri, during fieldwork we collected the following accounts from yatiris (traditional healers), usuyiris (traditional midwives), and people who have used the herb. The following account illustrates the use of contraceptive plants and their healing properties:

Our interviewee (EB, 2024) states that:

“There is an herb called Marancela, it is good for self-care. Herbs always have male and female characteristics. Marancela also has male and female parts. Reproductive health in women is about taking care of the body and one's sexuality; we must both take care of ourselves, men and women”.

When asked, “Where is that herb?”, our interviewee maintains:

“It grows on high hills, far away, especially the male plant, in Wasara Parki or Salla Parki, where there is little grass and more rocks. You can't find it on small hills. The female one, on the other hand, can be found on hills and slopes, but it's not easy to find. This grass must be harvested during the rainy season and dried in the shade, perhaps on a windowsill or on top of a cardboard box, but not in the sun”.

In the Aymara communities of the Juli district, women of childbearing age possess knowledge about the use of the plants “Sasawi”, “Wila layu”, and “Marancela”. This knowledge has been passed down maternally from their mothers and grandmothers, as they are the ones who experience these health issues. When a woman reaches reproductive age, it is referred to as “body care” or “body illness”, which is why she must be careful during agricultural and pastoral work that requires physical exertion, and especially on the days she has sexual relations with her partner. She also takes the contraceptive plants as a tea or infusion in hot water.

In the following story, it is pointed out that care is the responsibility of the couple (man and woman); both must take care of themselves in order to prevent the woman's pregnancy and, above all, to take care of the woman's health:

Chococconiri community of the Juli district (FN, 2024). Use of Kimsa Kucho.

The community is located in the upper part of the district. In this area, families are primarily engaged in the herding of Andean camelids (alpacas and llamas).

“It's a small plant with a very small stem, leaves, and flowers, and it grows on the hillside, near rocks, stone slabs, and springs. We climb up there very carefully to harvest it. We drink the kimsa k'uchu plant infusion. Mostly the women drink it, and the men drink it too, but the women drink more. We both have to be careful so the woman doesn't get pregnant. Our grandparents used this kimsa k'uchu plant long ago, and that's why they didn't have many children. In contrast, in the communities in the lower part of Juli, they have many children, which was also good for the family's work”.

Likewise, in the account we collected in the community of Ingenio in the district of Huacullani, our interviewee (OG, 2024) states that:

“At the top of the hill grows the kimsa k'uchu plant. This plant is used by women to prevent pregnancy. Families come to collect it between January and March and take it home. When needed, they boil water with the plant, let it steep, and then the women drink it during their periods. In this way, we take care of ourselves and our families. The kimsa k'uchu plant is very good for relieving body aches and colds, but you have to take care of yourself, dress warmly, and eat a good diet”.

According to these accounts, families have shared knowledge of the botanical, biological, and physical characteristics of the “kimsa k'uchu” plant since their grandparents' time. They easily recognize the places where the plants grow. They have used it for many generations, experimenting with its preparation and consumption by drinking the appropriate amount of the brew, a kind of medicinal remedy, primarily by women.

It is important to note that, under the term “reproductive health”, families refer to the period following a woman's menstruation as “body care”, during which both women and men take kimsa k'uchu. In this way, rural families attempt to prevent unwanted pregnancies.

Active Ingredients of Plants

Traditional contraceptive plants include Wila layu, Kimsa k'ucho, Sasawi, and Marancela. These species are traditionally harvested by cutting them from their natural habitat and drying them in the shade. Once dried, they can be used in various ways depending on the situation. The most practical and common method is preparing them as an infusion to take advantage of their active ingredients, especially for women of reproductive age and also for men.

The plant is composed of the following parts: root, stem, bark (skin), branches, leaves, flowers, fruits, and seeds. According to R. Pamplona (*et al.*), there are approximately 390,000 identified and classified plant species on the planet. However, many of these identified species have become extinct due to irrational human use, and many others remain unidentified and unclassified, especially in our highlands and the Amazon region. Plants are classified by genus, family, order, and division. It is worth noting that Pamplona, in his work “Encyclopedia of Medicinal Plants”, provides an interesting classification of plants and presents a good compendium of medicinal plants, which should be considered for future research. In our case, we will address the various studies on plants in the highland region, their theoretical and methodological contributions, their botanical characteristics, active principles, and use in treating diseases.

The Marancela

This native species has several uses, depending on the ailments people may have. For example, when used as a contraceptive, it is suitable for both men and women. This is according to local farming families, as will be discussed below.

In pregnant women, it often causes postpartum complications or relapse. Among the Aymara people, it is considered a bodily illness because it physically deteriorates the woman and, if left untreated, can even lead to death. Therefore, in the communities, families know of various herbs to treat these bodily deficiencies: “wila layu, sasawi, kimsa kúchu, marancela” among others.

Therefore, proper care is very important, whether after childbirth, after an illness, or even after bathing in hot springs. By studying these plants, we enter the world of beliefs, and sometimes people heal through these beliefs. After childbirth, women should take care of themselves for at least a week because every woman's body is different; some are strong, and others are weak. Postpartum complications can occur a month after the birth if the child is male. Postpartum complications caused by sun exposure are more severe; some women are left with lifelong health problems. The woman should wear a sash around her waist and avoid touching cold water. Her diet should consist of chuño broth with dried meat (charki) or fresh, unsalted meat, and she should avoid touching metal or aluminum objects for at least a week.

The scientific name of the plant “Marancela”, also known as “wira wira”, is *Achyrocline satureioides* (Lam.) DC. This plant belongs to the Asteraceae family and is used in the traditional medicine of the Aymara and Quechua peoples in the Puno region. Due to its anti-inflammatory, antispasmodic, and antitussive properties, it is also used to treat women's reproductive health issues. Parts of the plant, including the leaves and flowers, are used in infusions to treat various ailments, primarily to prevent pregnancy.

According to Llusco-Yucra, it is very good for back pain. The root is taken as a mate. It is used for back pain or lumbago. In Chile, it is medicinal: The glandular trichomes (hairs) contain the aromatic substance that, when the leaves are infused, gives an exquisite flavor. It is a remedy for altitude sickness (Reiche 1901). The root alone is used for body aches and, combined with verbena, for colds (Laval, 1957). It is applied as a poultice for injuries (Munizaga and Gunckel 1958; Gunckel 1967; Muñoz-Schick et al. 1981). As an infusion, like tea, it is used for its balsamic properties for chest ailments and against altitude sickness (Muñoz-Schick et al. 1981). The plant is used for menstrual pain in women (Wickens, 1993). As an infusion, this plant has a very pleasant flavor and is considered a remedy for altitude sickness, gastric cancer, etc. (Squeo et al. 1994).

It is possible that, during the infusion process, these herbs may release some oils among their active ingredients, since plants naturally contain essential oils, also known as plant odoriferous compounds, which have an oily texture and a very deep, penetrating aroma. Therefore, our samples—Marancela, Sasawi, and Kimsa k'ucho—possess these properties, which have beneficial effects on the human body. In each case, they should be used with extreme care for their intended purpose.

It is recommended that the plants or herbs come from organic ecosystems, carefully cultivated and harvested with care. Depending on the application, the type of plant and the part used guarantees the expected benefit, which is why their use continues to this day.

The Sasawi



Source. Collection of the “Sasawi” plant in the town of Condoriri and community of Llusta 2025.

Its scientific name is *Leucheria daucifolia*. It is an Andean medicinal plant traditionally used to treat digestive problems, according to studies by Peruvian researchers. It is native to the Andean region, particularly Peru, and is commonly believed to have medicinal properties. Another plant, *Minthostachys mollis*, is also known as “sasawi” in some regions. This latter plant belongs to the Lamiaceae family and is also used in traditional medicine, according to research at the National University of San Marcos.



Source: URIPA, *Eden of Apurímac. For the World, with Oscar AQ*. 2018.

Photo by Germán CV

Emerson Turpo (2015), in his Thesis on the Sasahui plant “*Leucheria daucifolia* (D. Don) Crisci”, points out that it is used empirically by the population for the treatment of different types of infections, including respiratory tract infections, skin infections, diarrheal infections, and body ailments.

Likewise, Gallegos Gorriti (et al.) studied “Evaluation of the antioxidant capacity, determination of polyphenols and total anthocyanins of the native species *Leucheria daucifolia* D. Don Crisci (sasahui)” (2010). The results obtained show that *Leucheria daucifolia* (D. Don) Crisci possesses good antioxidant capacity with an optimal correlation between polyphenols and antioxidant capacity. In another study on Sasahui, “Ethnobotany of the Yura - Chivay transect, Arequipa Department, Peru” (1995), results are presented regarding 122 species, among which *Leucheria daucifolia* “sasahui” is described. A morphological description, background of its use, phenology, and habitat type where it was found are provided. The botanical description of Sasahui, *Leucheria daucifolia* (D. Don) Crisci, is as follows:

1. It is a perennial herb 9 to 25 cm tall, covered with glandular hairs and sparse white wool, rhizomatous.
2. Oblique rhizome up to 2 cm in diameter from which rosettes of clustered leaves arise. c) Leaves: basal leaves petiolate, bipinnately divided, arranged in a rosette, covered with glandular hairs, oblanceolate, with linear segments. Cauline leaves elliptic with an acute apex, sessile and semi-clasping at the base, covered with glandular hairs.
3. Stem: scape-like, branched towards the apex, leafy along its entire length.
4. Fruit: achenes 2 to 3 mm long and 0.5 to 1 mm in diameter, elliptic-oblong, covered with hairs, shortly rostrate with a conspicuous epigynous disc.

Taxonomic classification of the sasahui:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Dicotyledoneae
ORDER	Asterales
FAMILY	Asteraceae
GENUS	<i>Leucheria</i>
SPECIES	<i>L. Daucifolia</i>
COMMON NAME	Sasahui, Sasawi

Medicinal Uses of Sasahui:

PART USED	HOW TO USE	CONDITIONS
Leaves and root	Decoction	Rheumatic pain, anti-inflammatory
Leaves	Decoction	Cough, flu, diarrhea, and diabetes.
Leaves	Macerated	Cough, bronchitis
Leaves and stem	Decoction	Intestinal parasitosis, scabies
Leaves	Poultice	Wounds and sores, muscle pain

Source: own elaboration based on the contributions of Astete J. (2003), Linares E. (1995).

The kimsa k'uchu

“Kimsa k'uchu” plant collected in the community of Ingenio in the district of Huacullani.

The plant “kimsa k'uchu” is a single species with different common names used in the study area, as well as in neighboring Bolivia, due to its great cultural diversity. For example, *Baccharis genistelloides* is known as “carkeja” and “charara” in Spanish, while in Aymara it is referred to as “kimsa k'uchu”. Behind medicinal plants and their therapeutic use lies more than just traditional and folk knowledge. For years, scientists worldwide have been investigating the phytochemistry of these plants to discover their potential active ingredients. All plants possess a large number of chemical compounds, most of which have no pharmacological effect (Evans, 2010).

Often, a plant's healing effect is due to the interaction of its various compounds. Traditional medicine commonly uses mixtures that combine different species and compounds. Furthermore, the chemical compounds in medicinal plants are frequently not distributed uniformly throughout the plant (Maldonado *et al.* 2017), but rather concentrated in certain parts or organs, such as the flowers, leaves, roots, or seeds.

That is why its use as a natural alternative and complementary therapy has received increasing attention from specialists in recent years. Currently, according to the World Health Organization (WHO) (Zhang & WHO, 2002), it is estimated that 80% of the world's population relies on traditional medicine for their primary healthcare needs (Maldonado *et al.* 2020).

In his study of medicinal plants in the Bolivian Andes, Prem Jai Vidaurre de la Riva (2006) notes that the Kallawayaya culture is comprised of itinerant healers, considered highly renowned medical specialists (Araucaria, 2004) due to their extensive knowledge of herbaceous species and substances related to traditional pharmacopoeia (Girault, 1987). This itinerant profession allowed for the widespread practice of traditional medicine, as Girault (1987) mentions, since the fame of these healers, who could cure the incurable, transcended borders, reaching both nearby regions and modern cities such as Tokyo, Paris, Berlin, and Rome. Their significant history has led to the recognition of the Kallawayaya Andean worldview through UNESCO's declaration as an Intangible Cultural Heritage of Humanity (Loza, 2005).

Of the medicinal plants, the leaves have been the most widely used (Girault 1987, Vidaurre 2000, Macía *et al.* 2005, Aguirre 2006), but other parts such as flowers, fruits, seeds, roots, bark, or in some cases the entire plant are also used. There are different methods of administration depending on the symptoms the person is experiencing. The use of infusions (mates), juices (tonics), poultices, rubs, baths, and magical healing ceremonies (smudging, baths, and spirit-calling rituals) is common practices (Ibidem). When one of these methods is used, the medicinal plant is accompanied by other plant varieties or products such as clay, honey, sugarcane honey, and milk, to name a few (Vidaurre 2000, Macía *et al.* 2005). It is important to highlight the existence of a fairly precise dosage system in traditional medicine, which aids in the dosage of preparations from different medicinal species (Arrázola, 1999). In this regard, (Girault, 1987) describes the Kallawayaya as remarkable experts in the strictly pharmacological field.

In our case, ingesting an infusion of these plants accelerates or triggers uterine contractions in a kind of convulsion, interrupting fertilization or the reproductive cycle in women. This could be described as an early-term miscarriage. Since the interruption is natural, the woman continues with her normal life, but she does consume certain foods that reduce the harmful effects on her health.

Kimisa k'uchu (*Baccharis genistelloides* Lam., Pers. *Baccharis trimera* Hier.) is prepared by infusing a small portion of leaves (about the size of a thumb) in a pitcher of water (approximately two standard cups). Once prepared, it is drunk, and its effect is said to accelerate vaginal flow, thus preventing pregnancy. According to traditional accounts, it is also used to care for a woman's body during illness (menstruation).

The Wila layu



Source. "Wila layu" plant collected in the high communities of the Juli district (Chococconiri and Ch'iarajaque), Chucuito province 2025.

This expression is composed of two words from the Aymara language, namely:

Wila, according to Bertonio (1612) Vila, means "blood". Furthermore, it is a meaning that, combined with other words, has a variety of meanings.

Layu expresses: edible rootlet, whose leaf is called Chhikhmo.

Layu choncoya, means: the whole bush.

Like the previous expression *Wila, layu*, when combined with other words, also has several meanings, for example: "*Layu pita haque*" means: "a poor person who lives off this herb or root". (Source: Vocabulary of the Aymara Language. Ludovico Bertonio).

"*Wila layu*" (*Malvastrum capittatum*) is an herb with purple or cherry-red leaves that is valued for its healing properties, similar to sarsaparilla. For this reason, in other areas such as Bolivian communities, it is known not only by its names "*wila layu*" and "*wila k'ullu*", but also as "sarsaparilla of the pampa" or "sarsaparilla of the puna".

It is an effective remedy for kidney stones and poisoning, for which purpose it is drunk three times a day (the first time on an empty stomach, then at midday, and at bedtime). The preparation method is as follows: pour about half a liter of water into a container, place a portion of the root (about the size of your little finger), finely ground, and leave it to macerate. Before drinking the water, it should be heated to boiling point, that is, the macerated mixture should be boiled. In this way, women will find relief from urinary tract ailments and it is also a remedy for inflammation of the uterus and ovaries.



Source. Roots of the "Wila layu" and "kita isañu" plants, collected in the communities of Jaruni in the district of Juli, are used in the care of the body of women and men.

Culture of Contraceptive Plants

Regarding the culture of using contraceptive plants, valuable information has been gathered, knowledge and wisdom passed down through generations. From this perspective, families themselves possess a body of knowledge that is inevitably lost over time. Therefore, it is imperative to document this knowledge, as outlined below:

Regarding the use of the herb “marancela”, our interviewee tells us (PM, 2024): “How is the marancela plant used? Marancela is used as an infusion, in mate. You boil water in a kettle, but it's better if you boil it in a clay pot, a small pot; there are also clay kettles. You drink it every afternoon, only on those days of your period. You pour the mate into a small cup; it has to be drunk piping hot. When is it used? The infusion of this herb is used during menstruation. Everybody is different; some menstruate for three or five days, or some women even menstruate for a week. You should drink it every afternoon on those days and protect yourself from the cold. That's right, you have to take good care of yourself; it's like giving birth. You shouldn't touch cold water; you have to dress warmly, with a vest, jacket, a shawl, something like that. Nowadays, girls...” They don't take care of themselves anymore; they're going to suffer in time. That cold seeps into your bones. At my age, they'll already have bone pain and rheumatism. There are also women who experience total pain during those days; they can't even stand or walk; they're just writhing in bed. For that, you have to take oregano or celery; that also soothes things. But some people also take pills, which I don't think is right. I'm pretty much fine during those days; you just have to take care of yourself, like I was saying.

Traditional methods of transmitting knowledge and wisdom generally pass from grandparents to parents, and from parents to children. On the female side, this transmission occurs from mothers to daughters and also from grandmothers to granddaughters. As mentioned, plants are used in infusions, a practice that has existed since time immemorial, harnessing the benefits of each plant to treat various ailments, such as body care and preventing pregnancy. This seems to be the case, as the following account sheds further light on the matter.

“Before, my mother would talk to me, advise me, saying that Marancela is good for preventing pregnancy. She always recommended it, saying, “You have to take it”. Our mothers and grandmothers knew about these plants and how to protect ourselves this way. Now we hardly know anymore. There are pills and injections, and people use them just for protection, and these plants are hardly used anymore. Young people today don't use or even know about these plants. They're natural remedies. People used to take care of themselves naturally, and pills aren't like that. I hardly know what chemicals they contain”.

The narrative reveals that in current generations, traditional methods of using medicinal plants for body care and healing are being lost. In this case, birth control is being neglected due to modernity, globalization, mass media, and social networks, which promote the use of pharmaceuticals, birth control pills, and chemicals. All of this is done to prevent pregnancy. However, women of reproductive age living in rural areas continue to use plants to maintain their health and avoid pregnancy.

Now, to the question of when plant culture became medicine, our answer is from the very beginning of humanity here in the highlands. Some 7,000 or 8,000 years before our era, humans traversed spaces and distances, experiencing the contents of each element they encountered. In this sense, two very important processes occurred: doing and knowing, as Hernández Sánchez Barba stated. Doing means experimenting, detecting, exploring, and manipulating things to understand their place in nature. With this human capacity, humans then know, understand, hypothesize, and can transmit this knowledge to successive generations. These two moments are dialectically related. They occur simultaneously with the conscious will to understand and explain: doing and knowing (an interactive process of experimentation and knowledge).

The process of creating and understanding is culture itself. Of course, it's primitive culture, but it's the advance toward full humanity. Humans begin to name places, geographical features, natural phenomena, plants, animals, minerals, and any object or phenomenon they can distinguish in their daily lives.

This act of naming, however, is not performed by just anyone, but by a “specialist”, someone dedicated to experimenting, understanding characteristics, differences, and similarities. It is thanks to this person that things have names. This is the marvelous world of discovery, the beginning of culture. With it arises totemism, myth, ritual, the symbolic nature of elements, and the systematic classification of everything within human reach. Technology, economics itself, religion, and forms of social organization, from simple to complex, also emerge. “Medicine” also arises to treat or cure the ailments and diseases that affect people—the so-called natural medicine, with its creator, Hippocrates. Later, people go to health centers and hospitals, where healthcare professionals make diagnoses, but they don't achieve complete healing, and they return to the clinics. Through these procedures, unintentionally, culture becomes medicine, and medicine advances at an accelerated pace.

Regarding the use of plants, discovering, systematizing, or maintaining a set of rules so that a given element can be used in the same way by everyone or at a specific time is the work of the “specialist”, “yatiri”, “qulliri”, or whatever they have been called for millennia. Honor to those who achieved knowledge and experimentation with plant elements and nature itself.

Plants are characterized by their variety, size, volume, the ecosystem they inhabit or grow in, their vegetative cycle, and the properties they contain, among other things. Specialists, who have built specialized knowledge through experimentation, are well aware of this. However, for anthropologists in this somewhat misunderstood field, it is a challenge to try to explain and understand, from a cultural perspective, the immense world of traditional medicine—in this case, the world of plants with healing properties that are still unknown to modern medicine, or that modern medicine lacks the understanding of. This traditional medicine is still practiced by a significant segment of the population, especially the forgotten communities of the Andean and Amazonian regions.

Citing Pamplona *et al.*, the World Health Organization maintains that a medicinal plant is:

“Any plant that contains in one or more of its organs, substances that can be used for therapeutic purposes or that are precursors in chemical-pharmaceutical semi-synthesis” (Pamplona *et al.* 1996 p. 27).

In the highlands, since ancient times, most plants have been known and used in their various parts: roots, stems, leaves, flowers, and fruits. Most of this knowledge remains in the collective memory and understanding of the population, especially specialists, who use the appropriate terminology. However, much knowledge has been lost (and will continue to be lost) due to distortions in communication processes and within the cultural tradition itself.

Without abandoning culture, plants become “medicinal plants” when they contain a set of active biochemical elements that, when applied to a specific ailment in the human body, alleviate it, stop the infection, and ultimately heal it. These principles have been known and recognized since ancient times. In every human settlement, there is a (non-scientific) experience and systematization of plants according to their variety. Each part of the plant is known and used accordingly. A set of traditions, ranging from myths to procedures for curing each disease, from the somatic to the spiritual, is based on this universe of plants. Some diseases are treated using roots, stems, leaves, or whole plants, as well as combinations of plant elements, flowers, and certain minerals.

Regarding the importance of research on plants for medicinal purposes in reproductive health, it is fundamental to ask: How important is this study? We believe it is very important, extremely so, because it helps us to discover:

Firstly: The time when certain methods for preventing pregnancy began to be recognized was possibly a recent development, considering that in the past there were no restrictions on pregnancy; the population was important primarily for labor. Certainly, a girl or adult woman could become pregnant by any means necessary; there was no way around it. As already mentioned, girls were forced into marriage as soon as they reached menarche. Therefore, it is possible that, as a result of overpopulation and a scarcity of resources, ways were sought to avoid bringing children into the world. Initially, this led to female infanticide, which has occurred in many primitive societies. Subsequently, migration occurred in a kind of diaspora, until the most suitable way to survive was found, giving rise to new human settlements in places like Arequipa, Moquegua, Tacna, Arica, Tarapacá, and other areas of southern Peru and northern Chile. The place names and personal names serve as evidence, suggesting that these topics should be explored further.

Secondly: The recognition and search for methods that can prevent pregnancy, by any means. Apparently, this is a more civilized way of controlling births, since female infanticide (because there is also male infanticide) is a savage practice, as savage as the wars that were frequent here in the highlands in the past. Here we return to secrecy, because the herbs that regulate menstruation are used in secret. In this process, there is an incredible diversity of prejudices that the population holds regarding these cases. So, as specified, the use of plants to prevent pregnancy is recent, but nonetheless important. Little-known examples from other contexts can be given, such as:

1. The “ether” (the common name by which it is known in Sachaca, Arequipa, by a few residents, such as Mercedes and Grimalda Torres, because most are ignorant of these things). An extraordinary shrub with stems about 30 centimeters tall and very small leaves. It reproduces by “cuttings”, that is, the stems are cut and replanted. It is widely used for stomach aches, but it has abortifacient properties. This information was provided by a health technician and anthropologist, Mr. Domingo Castillo, when he planted it in a pot at his home. It is necessary to add to this information: Juan Carpio, a professor in the Anthropology Program based in the city of Juli, planted three or four cuttings of this plant in the central courtyard of the campus. The result was a “small forest” growing very well. It is a marvelous plant.
2. The “balsam pear”, another plant with a medium-sized stem (one meter at most) and a very dense canopy of branches. Excellent for soothing the stomach, and we don't know what other benefits it has. It reproduces by seed. The stems are lost, as in the previous case, but the seeds are lost forever, just as many resources of great value to humankind have become extinct.
3. In our case, in the Aymara highlands, there are several resources used to prevent pregnancy, naturally, as the results presented in this research show. Apparently, there are no more “secrets” here, since university students know the names of several plants used for this purpose, that is, to prevent pregnancy.

4. Finally, we must note that in traditional populations these natural procedures are still used to achieve relief from the ailments they experience in their reproductive health, despite the intervention of health workers in hospitals or medical posts.

CONCLUSIONS

Local specialists in traditional medicine are responsible for upholding the usefulness of plants and their properties, identified by people of the past, as a legacy for future generations. Each plant, in its constituent parts, is identified as having the ability to cure and alleviate reproductive health problems, as in the case we are studying.

We expect much more from “*Wila layu*”, primarily to consider for future use, while we await the biochemical results of the plant. We are interested in its vegetative cycle, composition, growing locations, methods of use, and how it reacts in the body, achieving positive effects for its intended purpose. We are also interested in the level of satisfaction of the beneficiaries.

The use and benefits of the herbs *Sasawi*, *Kimsa K'uchu*, *Marancela*, and *Wila Layu* remain relevant due to their effectiveness in preventing pregnancy. The most common method of consumption is through infusions, given the level of development in rural communities. They continue to apply what they have learned in their daily lives to protect their health and reproductive well-being.

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