



Ethnopharmacological study of various plants used as female aphrodisiacs in the city of Korhogo (CÔTE d'Ivoire)

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Abstract

A decline in libido among women whether due to hormonal fluctuations or the daily mental strain is a personal concern for many women. Faced with this issue, treatment failures, dissatisfaction with modern medicine, and the high cost of effective treatments have led the population of Korhogo to turn to herbal remedies to address their needs. The objective of this study is to conduct an ethnopharmacological analysis of traditional plants used as female aphrodisiacs in the city of Korhogo, located in the Poro region of Côte d'Ivoire. An ethnopharmacological survey was conducted in the form of an oral questionnaire among twenty (20) herbalists, twenty (20) traditional healers, twenty (20) midwives, and sixty (60) female users. An ethnopharmacological survey was conducted using an oral questionnaire among twenty (20) herbalists, twenty (20) traditional healers, twenty (20) midwives, and sixty (60) female users. These investigations identified 17 plant species, the most frequently cited of which were *Alchornea cordifolia* (16.41%), *Sigesbeckia orientalis* (15.48%), and *Tetrapleura tetraptera* (9.29%). The plant parts used are leaves (31.58%), fruits and roots (21.05%), flowers and seeds (10.53%), and bark (5.26%). For proper administration, preparation techniques such as infusion (61.90%), decoction (19.05%), as well as chewing and maceration (9.52%) are used. Regarding routes of administration, the most commonly used are oral (60%) and intimate washing (20%), while the least used are intimate fumigation, sublingual administration (8%), and topical application (4%). These results highlight the importance of female aphrodisiacs in local traditional medicine and contribute to the promotion of indigenous knowledge and the enhancement of user safety.

Keywords: Ethnopharmacological study; Herbal aphrodisiacs for women; Decreased libido

1. Introduction

Female sexual dysfunction is a complex public health issue involving biological, psychological, and sociocultural factors [1]. In many regions of West Africa, traditional medicine remains a fundamental pillar in the management of issues related to sexual desire, reproductive capacity, and sexual dysfunction, through a wide repertoire of plants and local preparations passed down from generation to generation [2, 3]. In Côte d'Ivoire, the use of medicinal plants is deeply rooted in cultural and social practices, particularly in the northern regions of the country. Women's reproductive health plays a central role in these practices, notably through the use of aphrodisiacs intended to improve libido, fertility, and marital harmony [4, 5].

The ethnopharmacological approach makes it possible to link inventories of local knowledge (plants, plant parts, uses, recipes, and dosages) with inventories of phytochemical and pharmacological research, thereby providing a scientific

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basis for evaluating the efficacy, safety, and therapeutic innovation potential of these traditional remedies [6]. In Korhogo, in the Poro region, numerous traditional plants and recipes are used for these purposes. However, although these practices are widespread, they remain poorly documented from a scientific standpoint. Knowledge is primarily transmitted orally, which raises the issue of its gradual disappearance and lack of scientific validation. Furthermore, the emergence of commercial products marketed as “natural” sometimes adulterated with synthetic substances (e.g., sildenafil) highlights the need for rigorous research and strengthened regulatory oversight.

We were rightly interested in this study, which aims to catalog and identify plants with aphrodisiac properties found in the local pharmacopoeia through an ethnopharmacological survey conducted in the city of Korhogo.

2. Materials and methods

2.1. Equipment

2.1.1. Study Area

Figure 1 shows the eight (8) neighborhoods surveyed in the city of Korhogo, which constitutes the study area. Korhogo is a city located in northern Côte d'Ivoire and is the third (3) most populous city in the country. Nicknamed the “City of Poro,” it is the capital of the Savanes District and the Poro Region. Its population is approximately 440,926, and its geographical coordinates are between 9°27'41” north latitude and 5°38'19” west longitude.

2.1.2. Technical Equipment

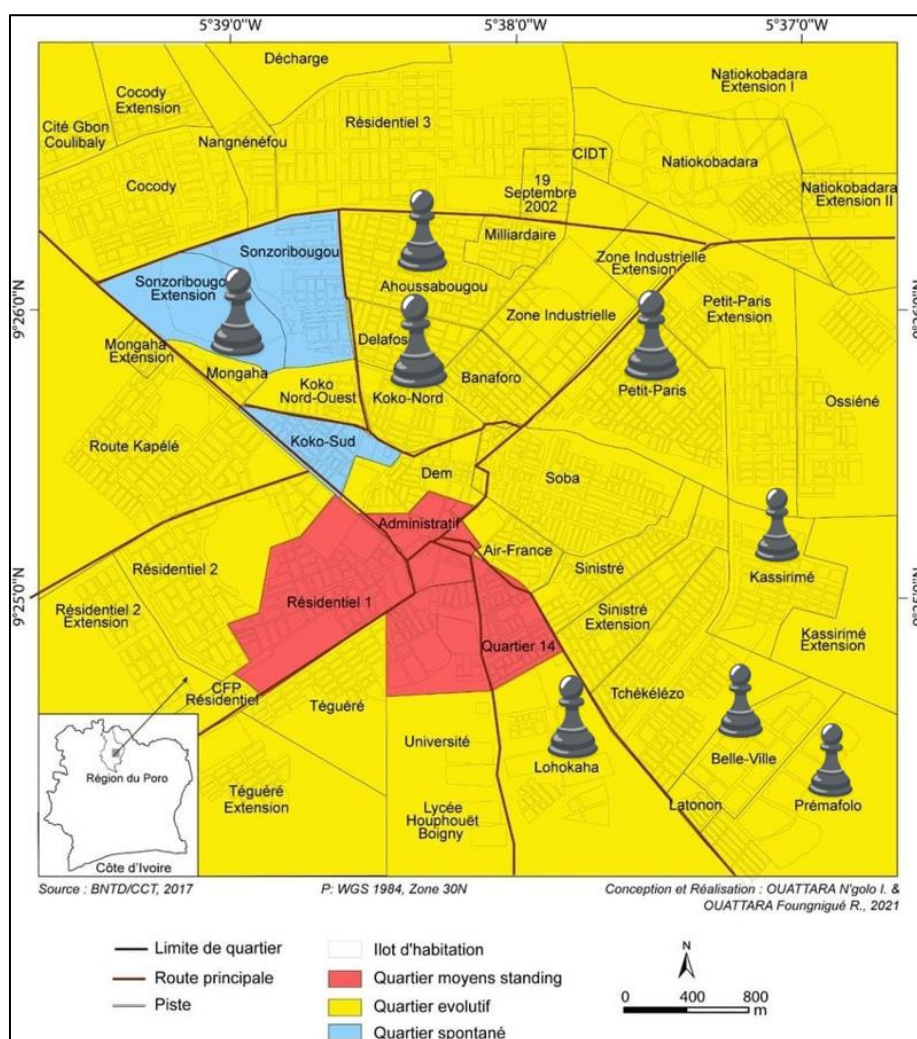


Figure 1 The locations of the neighborhoods surveyed in the city of Korhogo, in northern Côte d'Ivoire

The survey was conducted using a questionnaire designed specifically for this study. The questionnaire included sections designed to gather all relevant information about female aphrodisiac plants, including: their scientific and common names, the parts used, methods of administration, preparation techniques, side effects, and other conditions treated in the intimate sphere.

2.2. Methods

2.2.1. Target Population

The survey on aphrodisiac plants in the city of Korhogo focused on key informants with knowledge of medicinal plants sold or used as female aphrodisiacs in traditional medicine, including recipes and combinations of plants. These include:

- Twenty (20) herbalists
- Twenty (20) traditional healers
- Twenty (20) midwives
- Sixty (60) users

2.2.2. Conduct of the investigation

The survey was conducted over a one-month period (from February 18 to March 18, 2026) among the target population in the eight neighborhoods of the city of Korhogo. During the survey, 120 people (20 herbalists, 20 traditional practitioners, 60 users, and 20 midwives) were interviewed in person using the questionnaires from the survey form. The interviews were conducted individually to ensure confidentiality, given the intimate nature of the subject (female sexuality and libido). Discussions with the respondents focused on the plants and recipes used as female aphrodisiacs, including their scientific and vernacular names, the parts used, methods of preparation, and routes of administration. Particular attention was paid to describing the desired effects (libido enhancement, lubrication, vaginal tightening, treatment of frigidity). The survey was conducted in various locations within each neighborhood, such as courtyards, streets, and markets. This method made it possible to identify the medicinal plants used, as well as complex recipes (herbal mixtures) and finished products (powders and root mixtures) commonly sold as female aphrodisiacs, along with the usage instructions provided to customers.

2.3. Statistical Analysis

The results were analyzed using R software (version 4.5.2). Data collection and entry, as well as graphical representation, were performed using Word and Excel 2013. The comparison between the percentages of the plants mentioned, the parts used, the preparation methods, the modes of administration, and other diseases was performed using the chi-square test (test of equality of distributions) to assess the significance of the difference between the percentages. The p-value associated with the chi-square test statistic is examined relative to the theoretical threshold of $\alpha=5\%$. If the p-value is greater than 0.05, there is a significant difference. Conversely, when p is less than 0.05, there is no notable difference between the various means.

3. Results and discussion

3.1. Botanical family

The ethnopharmacological survey conducted in the Korhogo department identified 17 different plant species belonging to 15 families that are used as female aphrodisiacs. According to the data collected, the most common families are the Asteraceae and Fabaceae (**Table 1**). The results of these investigations are fully consistent with studies conducted by several authors. Indeed, a systematic review focusing on sub-Saharan Africa identified 209 species of medicinal plants used to treat sexual dysfunction, distributed across 73 families, and concluded that the Fabaceae and Asteraceae were among the most represented families [7]. Furthermore, a study conducted in Niger indicated that Fabaceae was the family most commonly used for aphrodisiac purposes [8]. The convergence of results across different regions of West Africa demonstrates the importance of Fabaceae and Asteraceae in traditional pharmacopoeia due to their richness in bioactive compounds.

3.2. Identified plants

The majority of respondents (traditional practitioners, herbalists, midwives, and users) cited plants such as *Alchornea cordifolia* (16.41%), *Sigesbeckia orientalis* (15.48%), and *Tetrapleura tetraptera* (9.29%) in this study. The difference in citation frequencies is statistically significant at $p<0.05$ (see **Table 1** and **Figure 2**). This could be explained by the phytochemical composition of these plants. Indeed, several phytochemical and pharmacological studies have shown

that extracts of *Alchornea cordifolia* leaves administered to rats significantly increased libido and sexual performance parameters [9, 10, 11, 12]. Other studies have also shown that *Tetrapleura tetraptera* plays an important role in reproduction and fertility in women [13, 14]. As for *Sigesbeckia orientalis*, contrary to our study, it is widely used in African pharmacopoeia to treat various conditions [15, 16] and is believed to have a relaxing effect that is beneficial to libido [17].

Table 1 List of medicinal plants used as aphrodisiacs in the Korhogo Department

Scientific names	Families	Common names	Organs used	Preparation techniques	Routes of administration	Citation frequency (%)
<i>Alchornea cordifolia</i>	Euphorbiaceae	Djeka	Leaves	Herbal tea	Oral use / Intimate hygiene	16.41
<i>Sigesbeckia orientalis</i>	Astéracées	Neck and neck	Leaves and Flowers	Herbal tea	Oral administration / Inhalation	15.48
<i>Acacia nilotica</i>	Fabacées	Nebneb	Fruit	Decoction / Infusion	Oral use / Intimate hygiene	6.19
<i>Zingiber officinale</i>	Zingiberaceae	Ginger	Rhizomes	Decoction / Infusion	Oral route	5.88
<i>Garcinia kola</i>	Clusiaceae	Small cola	Seeds	Chewing	Oral route	5.57
<i>Turnera diffusa</i>	Turneraceae	Damiana	Leaves	Herbal tea	Oral route	7.74
<i>Tetrapleura tetraptera</i>	Fabaceae	Four-sided	Fruit	Herbal tea	Oral use / Intimate hygiene	9.29
<i>Chrysopogon nigrifolius</i>	Poaceae	Gongolili	Roots	Herbal tea	Oral administration / Inhalation	3.72
<i>Lepidium meyenii</i>	Brassicaceae	Maca	Roots	Herbal tea	Topical/Sublingual	3.72
<i>Tribulus terrestris</i>	Zygophyllaceae	Tribulus	Fruit	Decoction	Oral route	1.86
<i>Crocus sativus</i>	Iridaceae	Saffron	Flowers	Maceration	Topical/Sublingual	3.72
<i>Ocimum basilicum</i>	Lamiaceae	Basil	Leaves	Herbal tea	Oral route	3.72
<i>Hibiscus sabdariffa</i>	Malvaceae	Bissap	Leaves / Seeds	Herbal tea	Oral route	1.86
<i>Mangifera indica</i>	Anacardiaceae	Mango tree	Bark	Infusion / Steeping	Intimate hygiene	5.57
<i>Illicium verum</i>	Schisandraceae	Star anise	Fruit	Herbal tea	Oral route	5.57
<i>Ageratum conyzoides</i>	Asteraceae	King of Herbs	Leaves	Herbal tea	Oral use / Intimate hygiene	2.79
<i>Mondia whitei</i>	Apocynaceae	N'doro	Roots	Chewing / Decoction	Oral route	0.93

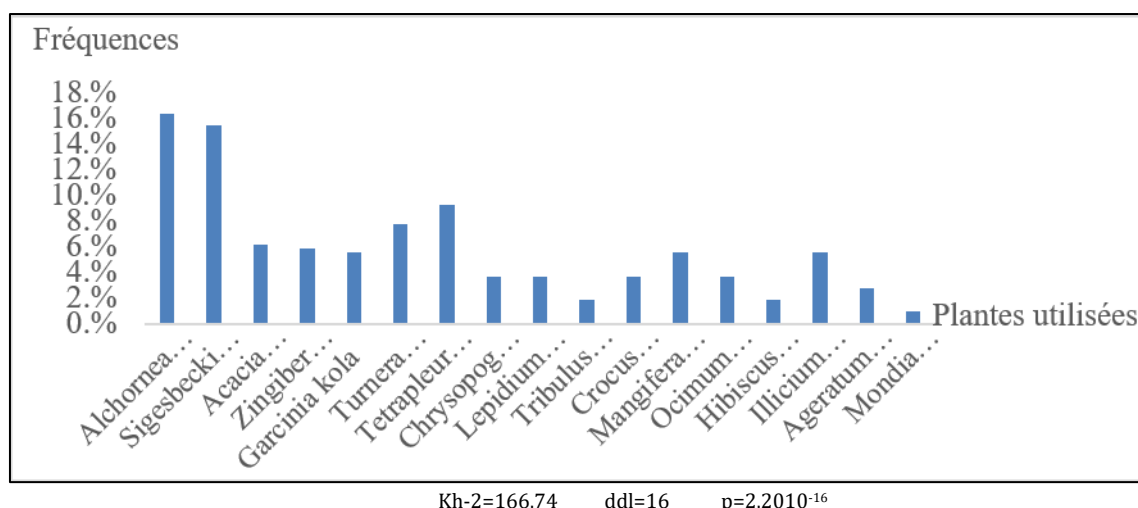


Figure 2 Plants used as aphrodisiacs

3.3. Organs used

The frequency of use of various plant parts with aphrodisiac properties revealed an uneven distribution. Leaves are by far the most commonly used part, accounting for 31.58% of recorded uses. Next, with identical proportions (21.05%), are fruits and roots. Flowers and seeds account for 10.53% of the total, while bark accounts for only 5.26% (**Figure 3**). Indeed, several studies have reported the predominant use of leaves in the treatment of sexual dysfunction in West Africa, particularly in Burkina Faso and Benin, as noted by [18, 19], with respective proportions of 31% and 35.77%. In contrast to our study, a review of aphrodisiac plants in Niger reports that roots are the most commonly used part (65.78%), highlighting the diversity of practices across regions [20]. The predominance of leaves is explained by the fact that leaves are the primary site of photosynthesis and the biosynthesis of numerous secondary metabolites with pharmacological properties [21, 22].

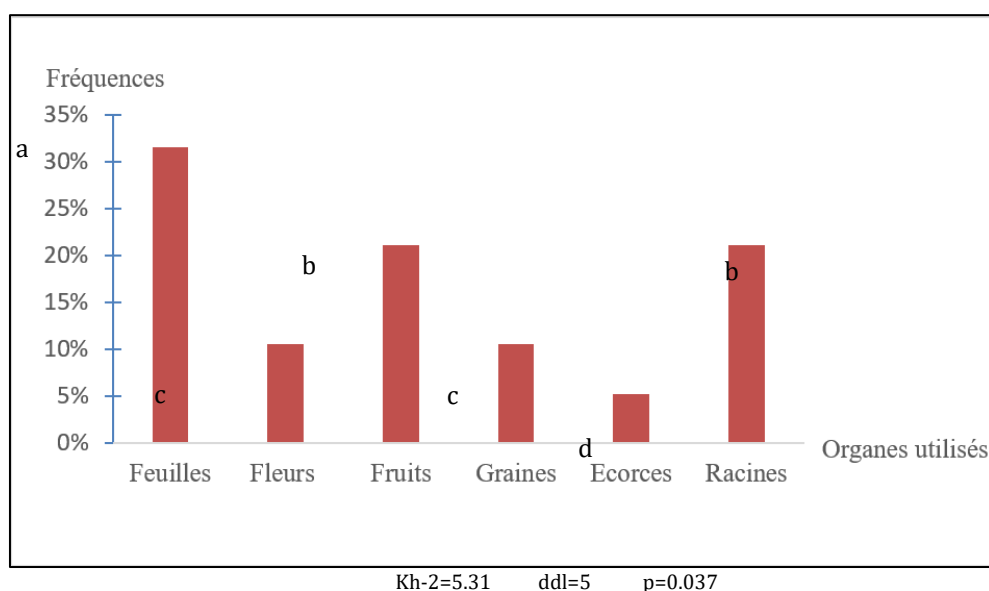


Figure 3 Plant parts used in the preparation

Bands labeled with the same letter do not show any significant difference ($P > 0.05$)

3.4. Preparation of herbal medicines

The survey revealed a variety of preparation methods, with infusion standing out as the most common technique at 61.90%, followed by decoction (19.05%), while chewing and maceration were each used by 9.52% of respondents. The difference between these frequencies is statistically significant ($p < 0.05$), indicating that the preference for infusion is

not due to chance. Aphrodisiac herbal preparations are primarily made as infusions because the leaves are the most commonly used part, and this method helps preserve the heat-sensitive active compounds essential for the aphrodisiac effect. Contrary to the findings of [23], which rank decoctions as the top choice for chronic conditions, our results suggest a specific preference for stimulant remedies in Korhogo, where rapid onset of action is prioritized. Finally, the use of chewing and maceration highlights a desire to optimize the bioavailability of fresh plant juices without thermal alteration [24]. In short, these techniques demonstrate the traditional practitioners' perfect adaptation to the nature of plant parts and the therapeutic effects sought.

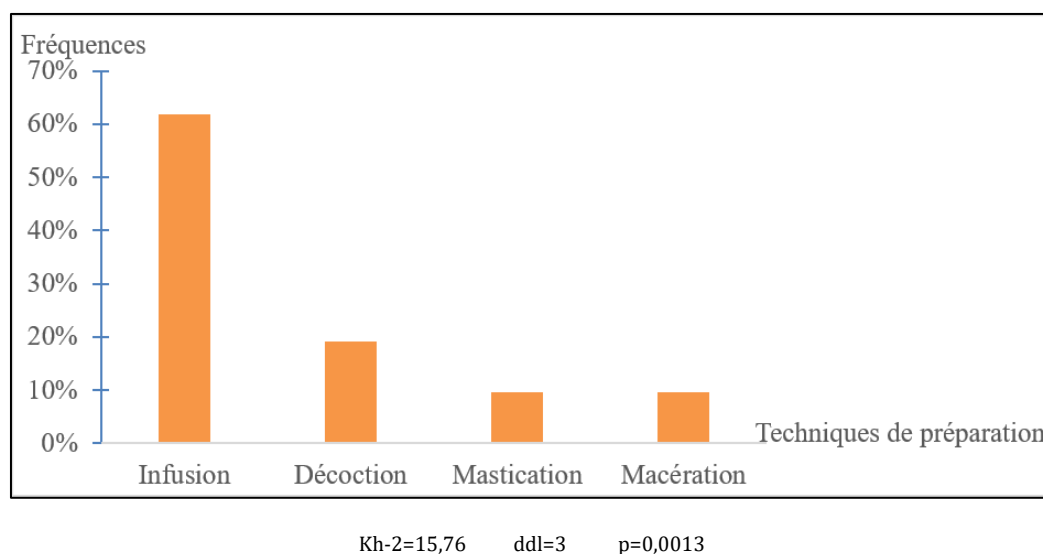


Figure 4 Methods for preparing medications

3.5. Routes of administration

Regarding routes of administration, the most commonly used is the oral route (60%), followed by intimate hygiene (20%); the least commonly used are intimate fumigation and the sublingual route (8%) and the topical route (4%), with a statistically significant difference ($p < 0.05$) between the frequencies. The predominance of oral administration of herbal medicines, confirmed by [25, 26, 27], is explained by the need for systemic action required to treat reproductive disorders. However, the significant proportion of local treatments (cleansing and fumigation) highlights a unique expertise within Korhogo's sexual pharmacopoeia, aimed at direct topical action on the urogenital area. These findings are also consistent with those of [28], which note that while the oral route remains the norm in sub-Saharan Africa for tonics, local routes ensure rapid action for specific treatments. In short, this variety reflects a rigorous adaptation of practices based on the desired speed of the therapeutic effect and the nature of the plant-based active ingredients.

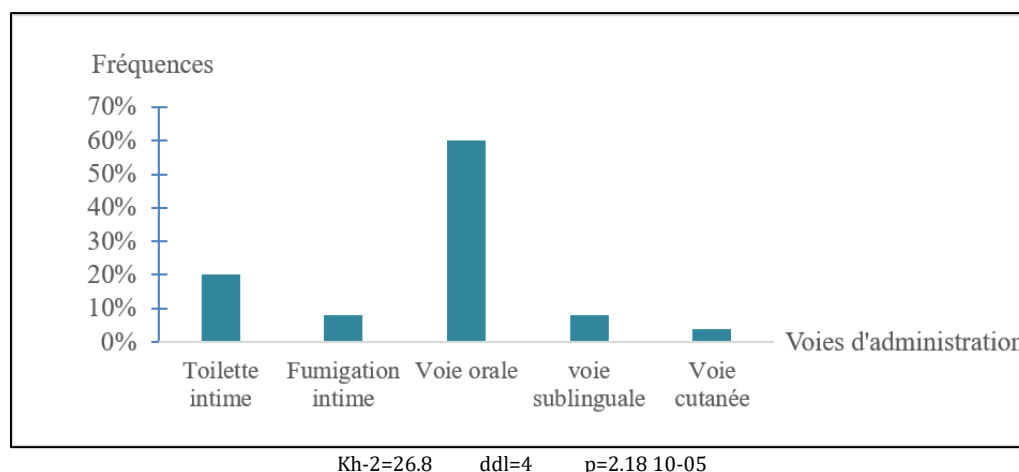


Figure 5 Routes of drug administration

4. Conclusion

The ethnopharmacological study identified various plants used as female aphrodisiacs in the city of Korhogo, located in the Poro region of Côte d'Ivoire. Seventeen medicinal plants were identified based on information provided by herbalists, traditional healers, midwives, and users. In this region, *Alchornea cordifolia* is the most sought-after species, and the leaves are the part most commonly used for preparing remedies. Infusion is the preferred method of preparation, while the oral route is the most frequently used for administering medicinal plants. Most of the plants mentioned are reputed to be effective against decreased libido in women. Consequently, phytochemical screening and pharmacological testing of extracts from these plants could, on the one hand, provide valuable information on their effects and, on the other hand, pave the way for the development of standardized, safe, and accessible therapeutic solutions to improve women's sexual quality of life.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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