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RESEARCH ARTICLE

ETHNOBOTANICAL KNOWLEDGE AND SOCIOLINGUISTIC VARIABILITY OF PLANTS USED IN THE TREATMENT OF HYPERTENSION IN THE PREFECTURE OF FARANAH (UPPER GUINEA)

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Abstract

Hypertension (HTN) is an expanding health condition in West Africa, particularly in rural areas where populations have limited access to modern medical care. In the Republic of Guinea, within the Prefecture of Faranah, communities rely on traditional medicine, drawing on ancient knowledge transmitted by local sociolinguistic groups. This study aims to document the plants used to treat HTN and to analyze their use according to geographical areas and sociolinguistic groups (Malinke, Peulh, Kissi, etc.). The ethnobotanical survey, conducted in the urban commune (Faranah center) and four rural communes (Banian, Beindou, Kobikoro, Tindo), collected data from 25 traditional healers belonging to different sociolinguistic groups (SLGs). Fifty-two (52) plant species belonging to 29 families were identified. The most frequently cited species are Hibiscus sabdariffa, Allium sativum, and Moringa oleifera. Differences in usage frequency across SLGs and geographical zones highlight the importance of local culture in therapeutic choices. The findings advocate for the integration of indigenous knowledge into the national public health strategy.

Introduction:-

Hypertension (HTN) is recognized as one of the main risk factors for cardiovascular diseases and premature mortality worldwide.

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According toMills et al. (1), more than one billion adults worldwide are affected, with a particularly high prevalence in sub-Saharan Africa. Hypertension represents a major global public health issue, affecting more than 1.39 billion people in 2010, or about 31% of the adult population(1). It is a primary risk factor for cardiovascular diseases, stroke, and kidney failure(2). In sub-Saharan Africa, the prevalence is estimated between 30% and 46%, often exacerbated by the epidemiological transition, rapid urbanization, and lack of access to health care(3,4). In rural African settings, the situation is even more alarming due to weak health systems, unaffordable treatments, and poor coverage of preventive care(3,5). The situation is particularly critical in rural areas, where access to modern health services is limited by economic, geographic, and cultural barriers(6).

In this context, traditional medicine, especially the use of medicinal plants, remains a major alternative for rural populations(7). These ethnomedical practices are transmitted within sociolinguistic groups (SLGs) and shaped by local cultural traditions(8). However, such knowledge remains under-documented and insufficiently integrated into national health strategies(9). Given these constraints, traditional medicine, particularly through the use of medicinal plants, continues to play a key role in the management of HTN. The World Health Organization (7) has emphasized the importance of traditional medicine in improving access to care in resource-limited countries. Mutua et al. (6)estimate that up to 50% of hypertensive patients in Africa resort to medicinal plants, often in combination with conventional treatments. Several ethnobotanical studies have confirmed the richness of local flora and the significant role of medicinal plants in the traditional management of HTN. For example, Diop et al. (8)recorded 38 species used to treat HTN in Senegal, while Tchacondo et al. (10) identified 97 species in West Africa.

These studies also show that therapeutic practices vary across sociolinguistic groups and geographical areas, underlining the need for a contextualized approach. From a pharmacological perspective, plants such as Hibiscus sabdariffa, Allium sativum, Moringa oleifera, and Annona senegalensis have demonstrated hypotensive properties documented through clinical trials and meta-analyses (11,12). These scientific findings reinforce the importance of valorizing traditional knowledge associated with these species. Documenting such knowledge contributes not only to the preservation of endogenous practices but also to the conservation of phytogenetic resources. It also responds to WHO recommendations regarding the integration of traditional medicines into national health policies (7). Furthermore, an interdisciplinary approach combining ethnobotany, pharmacology, and public health fosters a deeper understanding of local therapeutic practices and their scientific valorization (9,13).

In the Republic of Guinea, particularly in Upper Guinea, few studies have analyzed the relationships between sociolinguistic diversity (such as Malinke, Peulh, and Kissi), the selection of medicinal species, and their therapeutic applications. Yet, this local knowledge constitutes a valuable heritage and a potential resource for developing community-based health solutions(14,15). In Upper Guinea, especially in the Prefecture of Faranah, Malinke, Peulh, and Kissi groups hold diverse knowledge on the use of medicinal plants in the management of HTN. These plants include Hibiscus sabdariffa, Allium sativum, Moringa oleifera, and Annona senegalensis, all recognized for their antihypertensive effects (Iwalewa et al., 2021). Recent pharmacological studies have confirmed their antihypertensive properties (16). Despite this, few studies have focused on the diversity of practices across SLGs and on local geographical specificities in Guinea(15). This gap limits the recognition of traditional knowledge and its integration into community health programs(13,17). Therefore, this study is justified by the need to explore, document, and valorize the ethnobotanical knowledge of Faranah communities, in order to support community health, biomedical research, and the preservation of cultural heritage.

Materials and Methods:-

Study Area:-

The present study was conducted in the Prefecture of Faranah, located in Upper Guinea, one of the four major natural regions of the Republic of Guinea. The Prefecture of Faranah covers an area of approximately 12,966 km² and has an estimated population of 280,500 inhabitants according to the National Population and Housing Census (RGPH3, 2014). It is bordered to the north by the Prefecture of Dabola, to the east by Kissidougou, to the south by Gueckedou, and to the southwest by Kindia. Faranah Prefecture is characterized by a Sudanian-Guinean type climate, marked by two distinct seasons: (1) a rainy season from May to October, with an average annual rainfall of about 1,800 mm, and (2) a dry season from November to April, dominated by the harmattan wind. The vegetation consists of a mosaic of savannas, open forests, and gallery forests along rivers. This ecological context favors a high floristic diversity, which represents a major asset for traditional medicine practices (Figure 1). From a socio-cultural perspective, Faranah is a true crossroads of sociolinguistic groups.

The Malinke are the majority, alongside the Peulh, Kissi, and other minority communities. Each group preserves its own endogenous knowledge, particularly in phytotherapy, orally transmitted from generation to generation. The local economy relies mainly on subsistence agriculture, livestock rearing, fishing, and local trade, with a large proportion of the population living in rural areas. Access to modern health services remains limited, which strengthens the reliance on traditional medicine practices. For this study, five (05) sub-prefectures were targeted based on their geographical representativeness, socio-cultural diversity, and accessibility: (1) Faranah Center, (2) Banian, (3) Beindou, (4) Kobikoro, and (5) Tindo. These areas were selected to cover urban, peri-urban, and rural settings, and to represent the diversity of local sociolinguistic groups.

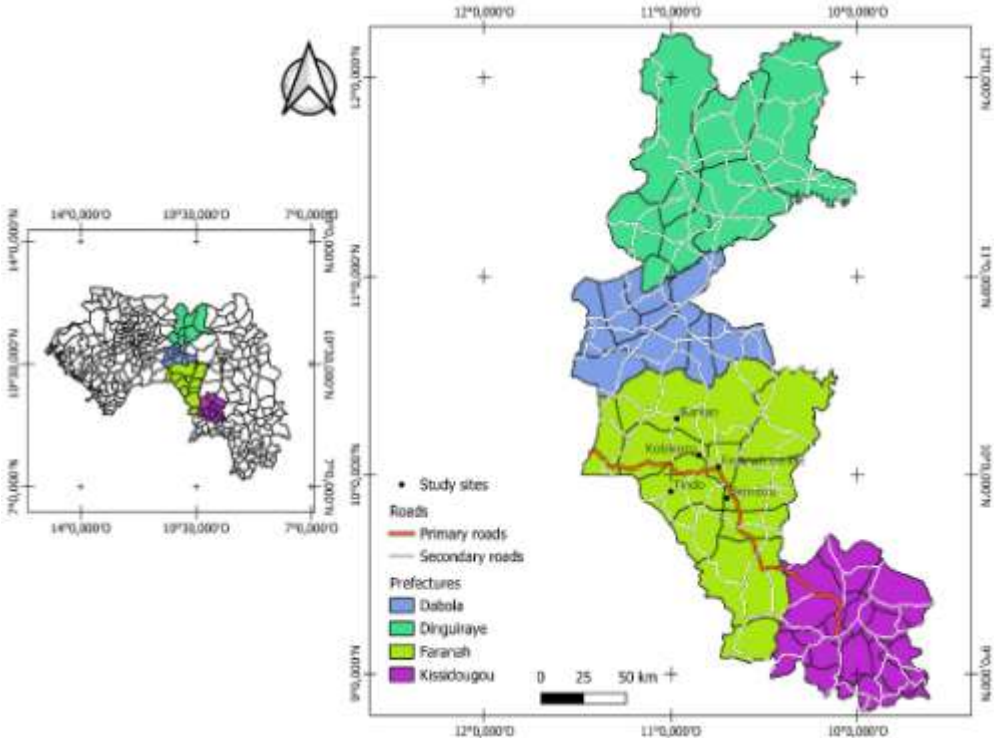

Figure 1. Study Area

Selection of Traditional Healers Surveyed:-
The ethnobotanical survey involved 25 traditional healers, distributed according to their sociolinguistic affiliation: 12 Malinke, 8 Peulh, 3 Kissi, and 2 Soussou (the latter originating from other regions but practicing in Faranah Prefecture). The selection of respondents was based on purposive sampling, a well-established method in qualitative research, aimed at identifying informants who are custodians of local knowledge and recognized within their communities for their expertise in traditional medicine(18,19). This approach ensured sociocultural representativeness of the main communities present in the study area. The demographic predominance of the Malinke in the region justified their dominant proportion in the sample (INS, 2014). The inclusion of Peulh and Kissi, known for their specific ethnobotanical knowledge, was necessary to account for the diversity of local therapeutic practices(8,10).

The Soussou, although a minority in the region, were included to reflect the inter-community exchanges of medicinal knowledge, a phenomenon frequently observed in traditional health systems across West Africa(9). The number of participants falls within methodological standards of ethnobotanical studies, where a sample of 20–30 informants is generally sufficient to achieve data saturation, the point at which the information collected becomes repetitive despite the addition of new respondents (20). Thus, this sampling design served a dual purpose: ensuring sufficient cultural diversity and enabling relevant comparative analysis of knowledge and practices related to the traditional treatment of hypertension in Faranah Prefecture.

Methods:-

Ethnobotanical Surveys:-

Data were collected through semi-structured interviews, guided questionnaires, and direct field observations. Semi-structured interviews allowed for free exploration of healers' knowledge while following a thematic framework focused on: plant species used against HTN, plant parts employed, modes of preparation and administration, and locally recognized therapeutic indications.Direct observation complemented declarative information, particularly through the inspection of plants used, remedies prepared, and contexts of administration. This method is widely acknowledged for its relevance in ethnobotanical studies and the collection of traditional knowledge (19).

Plant Collection and Botanical Identification:-

Plant specimens were collected with the participation of traditional healers during field visits. Samples were properly labeled, pressed, and subjected to rigorous botanical identification, in collaboration with specialists from the Faranah Research Center and botanists from Julius Nyerere University of Kankan.
Identification was based on morphological characteristics, the use of botanical keys, and comparison with reference collections.

Data Processing and Analysis?:-

The collected data were coded, entered, and analyzed using standard quantitative ethnobotanical techniques(21). Analyses focused on:

- Citation Frequency (CF): the number of times a species was cited relative to the total number of informants, serving as an indicator of its cultural and therapeutic importance.
- Jaccard Similarity Index (JSI): used to compare the floristic composition of cited plants across the different surveyed areas and to measure the degree of similarity between sub-prefectures(22).
- Relative Importance Index (RI) by sociolinguistic group: to identify the most valued species within each community and compare preferences between groups.These analyses aimed to objectify the role of different species in local practices and highlight sociocultural dynamics of antihypertensive phytotherapy in the region.

Results:-

Floristic Diversity:-

A total of 52 plant species belonging to 29 botanical families were identified during the survey. The most represented families were Fabaceae (8 species), Lamiaceae (5 species), and Euphorbiaceae (4 species). This floristic diversity reflects both the richness of local ethnobotanical knowledge and the ecological diversity of the Faranah region.

Most Frequently Cited Species:-

Among the recorded species, some stood out due to their high citation frequency (CF), underscoring their perceived importance in the treatment of HTN (Table 1). Citation frequencies highlighted two essential dynamics:

1. Certain species, such as Hibiscus sabdariffa and Allium sativum, appeared as widely shared resources across sociocultural groups, indicating broadly diffused knowledge at the regional community level.
2. Other species, such as Moringa oleifera and Annona senegalensis, revealed more specific uses tied to particular SLGs, emphasizing the role of cultural diversity in traditional HTN management.

The heatmap (Figure 2) illustrates the distribution of citation frequencies for the ten major medicinal species used against hypertension across the five sub-prefectures studied in Faranah Prefecture. The results show marked differences between localities.
Hibiscus sabdariffa and Allium sativum exhibited citation frequencies above 70% in almost all areas, reflecting their universal importance among local communities. Moringa oleifera was particularly cited in Kobikoro and Banian, indicating a marked preference among Malinke groups. Some species, such as Combretum micranthum, showed more localized citation frequencies, suggesting community- or area-specific uses.

Species According to the Relative Importance Index (RI):-

Figure 3 presents the hierarchy of medicinal species based on their Relative Importance Index (RI), calculated from the average citations across the five sub-prefectures. The results reveal a clear dominance of Hibiscus sabdariffa, Allium sativum, and Moringa oleifera, which displayed the highest RI values. These three species are considered priorities for ethnopharmacological research due to their widespread use and cross-community recognition.

Species with lower RI values corresponded to more localized or specific uses, often integrated into polyherbal remedies.The dendrogram (Figure 4) illustrates similarities and differences among the studied sub-prefectures, based on citation frequencies of the ten main species used against HTN. The observations indicated clustering of Faranah Center and Kobikoro, suggesting therapeutic similarities likely linked to geographical proximity and community interactions. Tindo and Beindou also clustered together, reflecting shared practices, possibly influenced by local sociolinguistic composition. Banian appeared more distinct, possibly due to specific practices or more restricted knowledge in this locality.

The dendrogram underscores the influence of geographic and cultural factors on species diversity, reinforcing the importance of inter-zone comparative analysis to better understand ethnobotanical dynamics.The Shannon Index (H′), a classic measure of species diversity, combines both species richness (number of different species) and evenness (distribution balance) within a given sample. The higher the index, the greater the diversity, reflecting varied and balanced use of local plant resources(23).The results showed Shannon index values ranging between 1.801 and 1.899, indicating moderate to high floristic diversity across the surveyed sub-prefectures. Beindou (1.899) presented the highest value, suggesting greater diversity in species used by traditional healers. This may reflect a rich ecological mosaic or cultural exchanges fostering medicinal plant knowledge sharing. Tindo (1.891) also showed a high index, confirming its importance in terms of local ethnobotanical knowledge.

Faranah Center (1.836) and Banian (1.833) exhibited intermediate values, indicating significant though slightly less marked diversity. This may reflect more homogeneous phytotherapeutic practices or the predominance of a few dominant species. Kobikoro (1.801) recorded the lowest value, though still relatively high, possibly indicating more specialized practices or reliance on a narrower range of species.Analysis of Shannon index values revealed notable floristic diversity in all studied areas, though with significant variations across sub-prefectures. These results suggest that ethnobotanical practices related to HTN treatment in Upper Guinea are both diverse and adapted to local cultural and ecological contexts.The high diversity observed in Beindou and Tindo may reflect rich endogenous knowledge and dynamic cultural transmission. Conversely, the lower diversity in Kobikoro could signal more targeted traditions or reliance on emblematic species. Overall, these findings support the view that medicinal plant diversity is not uniform but strongly influenced by sociocultural, environmental, and historical factors specific to each sub-prefecture (Table 2).

Species	**Total Frequency (%)**	**Sociolinguistic Group**	**Zones les plus citees**
Hibiscus sabdariffa	84 %	Tous	Banian, Tindo
Allium sativum	76 %	Peulh, Malinke	Faranahcentre, Beindou
Moringa oleifera	70 %	Malinke	Kobikoro, Banian
Annona senegalensis	60 %	Kissi	Beindou, Tindo

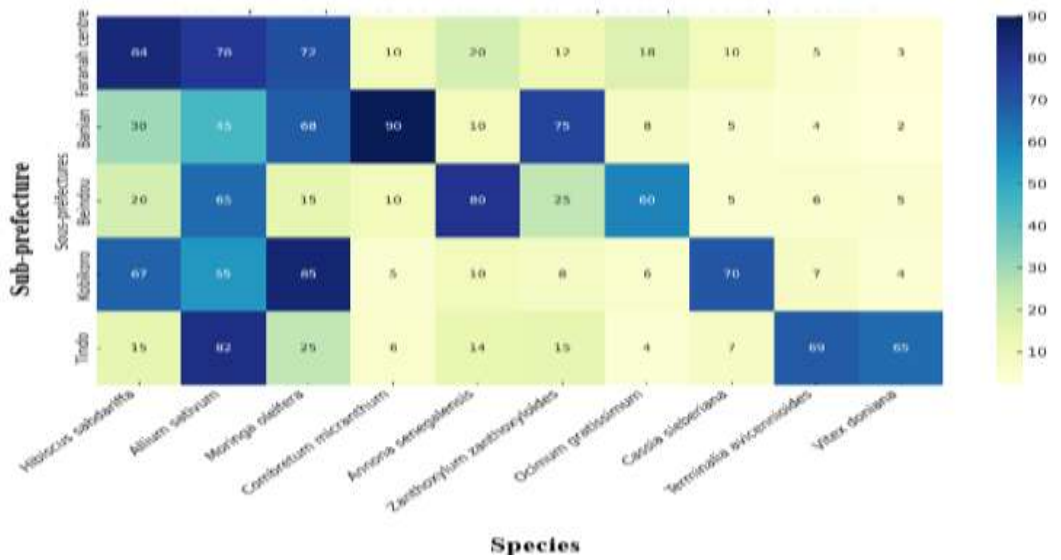

Figure 2.Heatmap showing the citation frequency (%) of the 10 most common medicinal species in each Sub-prefecture.

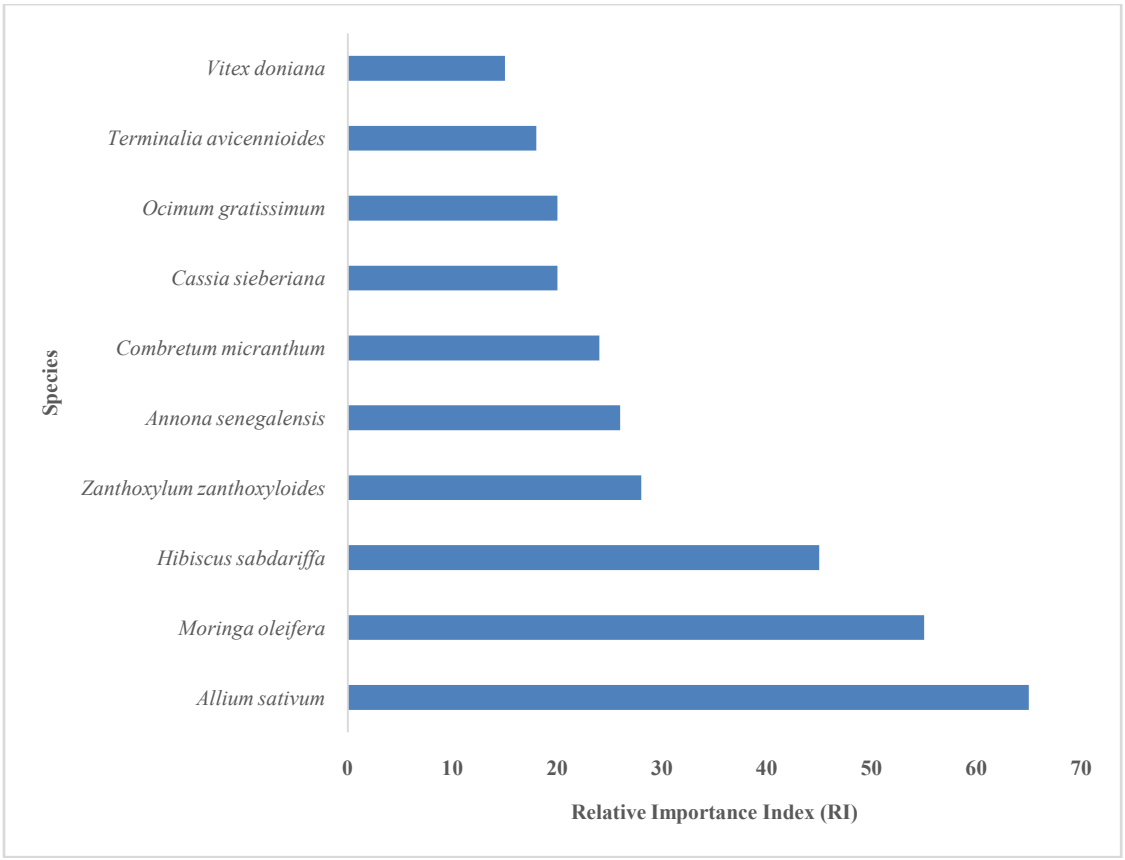

Figure 3.Relative Importance Index (RI) of the main species used in hypertension treatment across the five study areas.

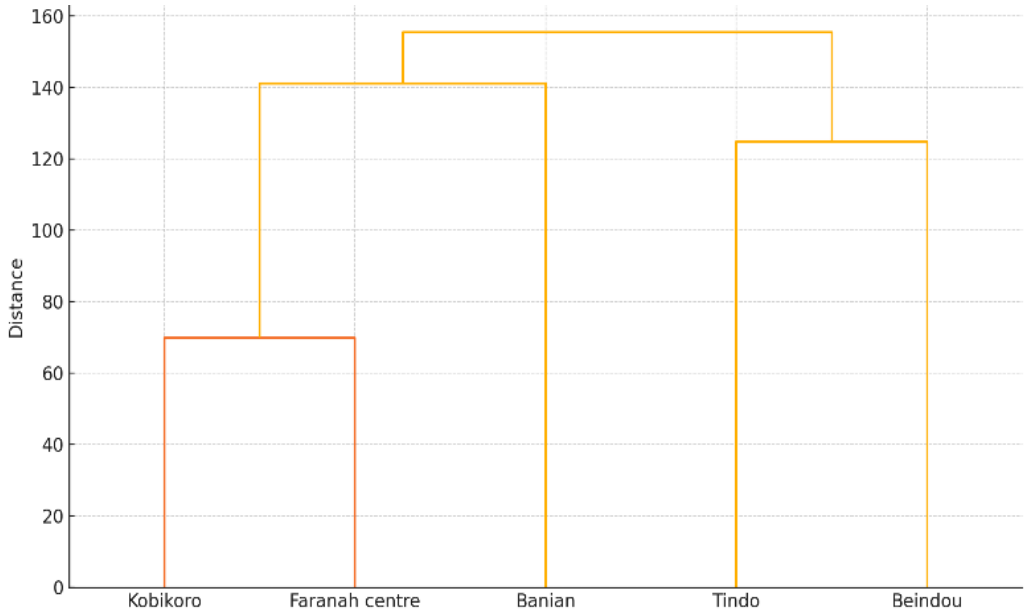

Figure4. Floristic similarity dendrogram of sub-prefectures based on citation frequencies of the top 10 antihypertensive species.

Table 2. Shannon diversity indices across sub-prefectures

Sub-prefecture	Latitude	Longitude	Shannon Index (H′)
Faranahcentre	10.0405	-10.7436	1.836
Banian	10.2833	-10.9667	1.833
Beindou	9.8833	-10.7	1.899
Kobikoro	10.1	-10.85	1.801
Tindo	9.9167	-11.0	1.891

Plant Parts Used, Preparation, and Administration:-

The simplified map illustrates the proportion of decoction use as a preparation method for antihypertensive remedies in five (05) sub-prefectures of Faranah Prefecture. Each point represents a surveyed locality, and the size of the point is proportional to the frequency of decoction use reported by traditional healers. This geographic representation highlights clear regional trends in traditional remedy preparation practices.

In Faranah Center and Kobikoro, the larger points indicate a high prevalence of decoction use, confirming the importance of this method in these localities where the Malinke are the majority. This result is consistent with field observations and regional ethnobotanical data, where decoction is traditionally favored for extracting active plant compounds.

In Beindou and Tindo, the point sizes also indicate high use of decoction, though slightly lower than in Malinke-dominated areas. This suggests partial diffusion of the practice among other sociolinguistic groups, particularly the Kissi. By contrast, in Banian, the smaller point size may reflect a local preference for alternative methods such as infusion or maceration, although decoction remains in use.Figure 6 shows the diversity of plant parts used in the traditional treatment of hypertension. Annotations associated with each point specify the percentages of leaves, roots, bark, and fruits/seeds in each sub-prefecture. The results reveal a predominance of leaves in all localities, with

proportions ranging from 55% to 62%. This finding confirms the well-documented trend that leaves are perceived as more accessible, more active, and less toxic(9).Roots rank second, used mainly for their strengthening properties, particularly in Banian and Tindo, where their use exceeds 20%. Bark use remains moderate but significant, especially in Kobikoro. Fruits and seeds account for the smallest share but are present in all localities, indicating their occasional use in specific preparations.

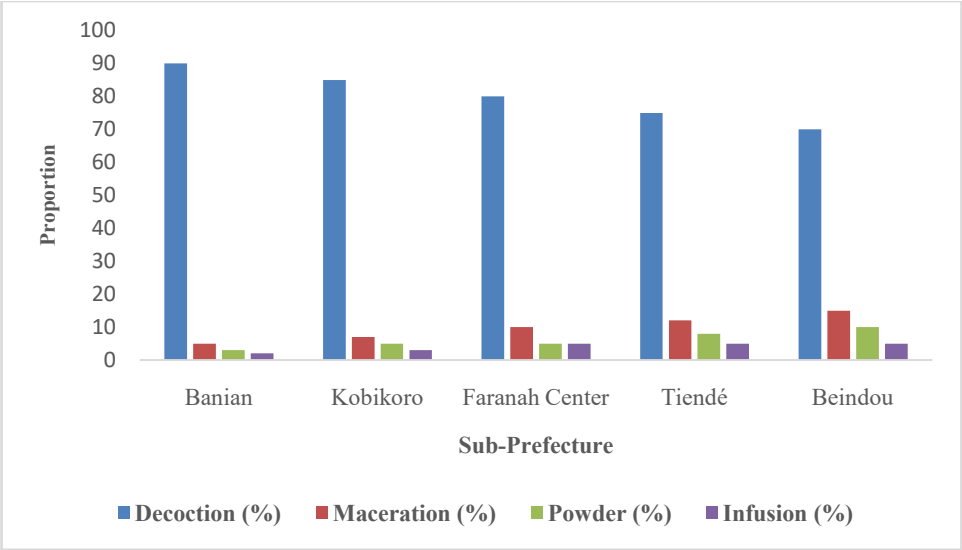

Figure 5 :Proportion of preparation methods used in hypertension treatment across five sub-prefectures of Faranah..

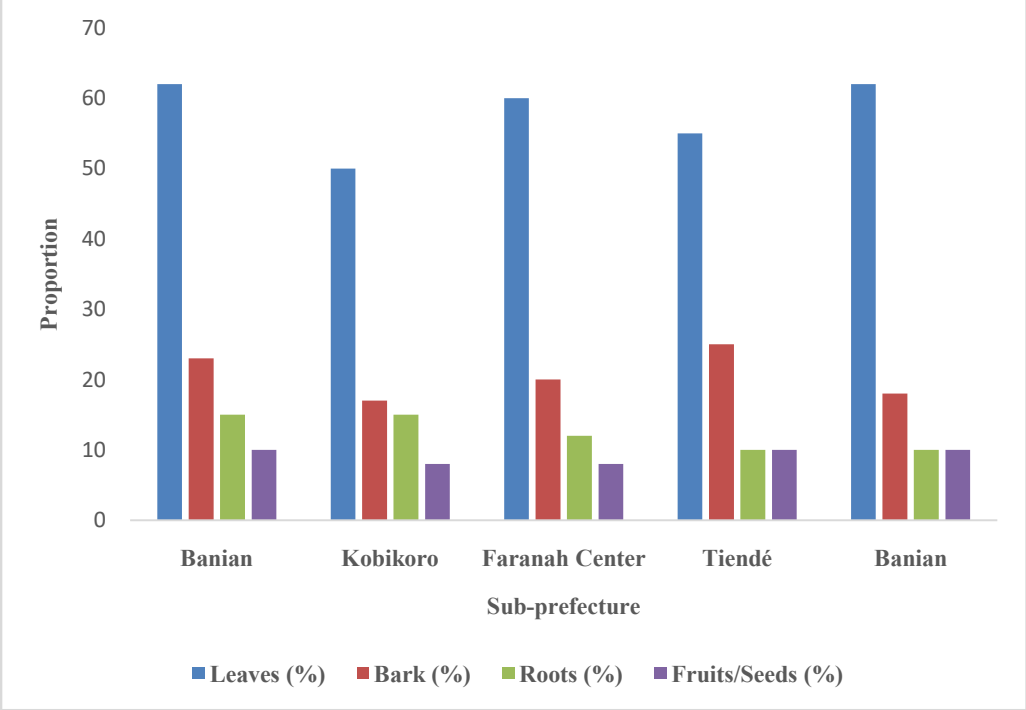

Figure 6 :Distribution of plant parts used in traditional hypertension treatment across five sub-prefectures of Faranah

Sub-prefecture	Ethnic group	Leaves	Roots	Bark	Fruits/Seeds	Decoction	Infusion	Maceration	Powder
Faranahcentre	Malinke	XXX	XX	XX	X	XXX	XX	XX	X
Faranahcentre	Peulh	XXX	XX	X	X	XXX	XX	X	X
Faranahcentre	Kissi	XX	XXX	XX	X	XX	X	XX	X
Faranahcentre	Soussou	XX	X	XX	X	XX	X	X	X
Banian	Malinke	XXX	XX	XX	X	XXX	XX	XX	X
Banian	Peulh	XXX	XX	X	X	XXX	XX	X	X
Banian	Kissi	XX	XXX	XX	X	XX	X	XX	X
Banian	Soussou	XX	X	XX	X	XX	X	X	X
Beindou	Malinke	XXX	XX	XX	X	XXX	XX	XX	X
Beindou	Peulh	XXX	XX	X	X	XXX	XX	X	X
Beindou	Kissi	XX	XXX	XX	X	XX	X	XX	X
Beindou	Soussou	XX	X	XX	X	XX	X	X	X
Kobikoro	Malinke	XXX	XX	XX	X	XXX	XX	XX	X
Kobikoro	Peulh	XXX	XX	X	X	XXX	XX	X	X
Kobikoro	Kissi	XX	XXX	XX	X	XX	X	XX	X
Kobikoro	Soussou	XX	X	XX	X	XX	X	X	X
Tindo	Malinke	XXX	XX	XX	X	XXX	XX	XX	X
Tindo	Peulh	XXX	XX	X	X	XXX	XX	X	X
Tindo	Kissi	XX	XXX	XX	X	XX	X	XX	X
Tindo	Soussou	XX	X	XX	X	XX	X	X	X

Note: The symbol "X" indicates a low level of use, "XX" a medium level, and "XXX" a high level, based on ethnobotanical data collected from traditional healers in the sub-prefectures of Faranah Prefecture.

The cross-analysis of ethnic groups, sub-prefectures, plant parts, and preparation methods reveals several major trends. Leaves emerge as the most commonly used plant part (XXX) across all ethnic groups and sub-prefectures. Similarly, decoction largely dominates among preparation methods, confirming its central role in extracting the active principles of medicinal plants.

The Kissi, particularly in Banian and Tindo, stand out for their marked use of roots (XXX) and their more frequent recourse to maceration. The Malinke and Peulh, who form the majority groups, mainly favor leaves and decoction, reflecting a certain homogeneity of practices. The Soussou, a minority group, present more balanced but overall less intensive uses.

Bark is more frequently reported in certain areas, notably in Kobikoro and Beindou, where it is used as a complement to other parts. Fruits and seeds, weakly represented (X), are nonetheless present across all ethnic groups, confirming their occasional integration into specific recipes.

Overall, the results illustrate clear sociolinguistic variability: some species and plant parts are shared across all groups, such as Hibiscus sabdariffa and Allium sativum, while other uses appear more specific, such as Annona senegalensis among the Kissi. This cultural diversity reflects the richness of endogenous knowledge and its adaptation to local ecological contexts.

Table 4. Ethnobotanical diversity of plants used against hypertension in Faranah Prefecture (Upper Guinea), their vernacular names, and associated languages

Scientific name	Vernacular name	Language	Ethnic group(s) using the plant	Sub-prefecture(s)	Plant parts used	Preparation methods
Hibiscus sabdariffa	Djissènni	Malinke	Malinke, Peulh, Kissi	Banian, Tindo, Kobikoro	Leaves, calyces	Decoction (XXX), Infusion (XX)
Allium sativum	Ayoun	Peulh	Peulh, Malinke	Faranah, Beindou	Bulbs	Decoction (XXX), Powder (XX)
Moringa oleifera	N'beto	Malinke	Malinke, Peulh	Kobikoro, Banian	Leaves, seeds	Decoction (XXX), Infusion (XX)
Annona senegalensis	Banbani	Kissi	Kissi	Beindou, Tindo	Roots, bark	Maceration (XXX), Decoction (XX)
Combretum micranthum	Kinkeliba	Malinke	Malinke, Peulh	Kobikoro, Faranah	Leaves	Infusion (XXX), Decoction (XX)
Azadirachta indica	Nîmi	Malinke	Tous	Toutes zones	Leaves, bark	Decoction (XXX)
Vernonia amygdalina	Ndole	Soussou	Malinke, Soussou	Banian, Beindou	Leaves	Decoction (XX), Infusion (XX)
Carica papaya	Boki	Malinke	Malinke, Peulh	Faranah	Leaves, seeds	Decoction (XX), Powder (X)
Mangifera indica	Mango	Peulh	Tous	Toutes zones	Leaves, bark	Decoction (XXX), Infusion (XX)
Citrus aurantiifolia	Limou	Soussou	Peulh, Kissi	Beindou, Tindo	Fruits, leaves	Infusion (XX), Maceration (X)
Zingiber officinale	Atalika	Malinke	Malinke, Peulh	Faranah, Banian	Rhizomes	Decoction (XXX), Powder (XX)
Ocimumgratissimum	Tchayo	Malinke	Tous	Kobikoro, Beindou	Leaves	Decoction (XXX), Infusion (XX)
Eucalyptus camaldulensis	Kalato	Malinke	Malinke, Peulh	Tindo, Beindou	Leaves	Decoction (XX)
Annona muricata	Kènè	Soussou	Kissi, Soussou	Banian, Beindou	Leaves	Infusion (XX)
Parkia biglobosa	Nere	Malinke	Malinke	Kobikoro, Faranah	Leaves, bark	Decoction (XX)
Khaya senegalensis	Djala	Malinke	Malinke, Peulh	Banian, Tindo	Bark	Decoction (XXX)
Cassia occidentalis	Sounbani	Peulh	Peulh, Kissi	Faranah, Beindou	Leaves	Decoction (XX)
Psidium guajava	Goyaba	Soussou	Tous	Toutes zones	Leaves	Infusion (XX), Decoction (X)
Securidacalongepedunculata	Kpalan	Kissi	Kissi, Soussou	Beindou, Tindo	Roots	Maceration (XXX), Decoction (XX)
Hymenocardiaacida	Tomba	Malinke	Malinke, Peulh	Kobikoro, Faranah	Leaves, bark	Decoction (XX)

Table 4 highlights the floristic and sociolinguistic diversity mobilized in the traditional treatment of hypertension. The results show an interethnic convergence around certain species, with Hibiscus sabdariffa, Allium sativum, and Moringa oleifera used by several ethnic groups (Malinke, Peulh, Kissi, Soussou), reflecting broad cultural and therapeutic diffusion. There is also ethnolinguistic specificity in naming and use, as vernacular names differ across languages (e.g., Annona senegalensis called Banbani in Kissi), illustrating cultural anchoring and group-specific knowledge. A hierarchy of plant parts is observed, with leaves and roots dominating uses, while bark and fruits/seeds appear as complementary, reflecting both perceived therapeutic properties and the availability of plant organs. Decoction emerges as the predominant preparation method, confirming its central role in extracting active compounds, though infusion and maceration are also reported, particularly among the Kissi, indicating variability in practices. Finally, the coexistence of multiple vernacular names for the same species highlights a strong cultural and heritage dimension, underlining linguistic richness and the importance of oral transmission of ethnomedical knowledge.

Declarations:-
Funding Declaration:-

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Consent to PublishDeclaration
Consent to Publish declaration: not applicable.

Consent to ParticipateDeclaration
Consent to Participate declaration: not applicable.

EthicsDeclaration
Ethics declaration: not applicable.

Discussion:-

The results of this study confirm the central role of traditional medicine in the management of hypertension (HTN) in Faranah Prefecture, Guinea. This finding is consistent with observations across West Africa, where several surveys have shown the frequent use of medicinal plants in HTN treatment(8,10).The floristic diversity identified, with 52 species belonging to 29 families, demonstrates the richness of local knowledge. This result is comparable to findings reported byIwalewa et al. (11) and Aboyewa et al.(16), who also noted high species diversity used against HTN in sub-Saharan Africa. The omnipresence of species such as Hibiscus sabdariffa, Allium sativum, and Moringa oleifera, frequently cited in other African regions(12,24), shows that certain plants benefit from wide intercommunity diffusion, reinforced by validated pharmacological effects.

Differences observed across sociolinguistic groups (SLGs) and geographical zones confirm that phytotherapeutic practices are strongly shaped by cultural contexts. This variability, also highlighted by Bah et al. (14) and Camara et al.(15), reflects the complexity of ethnobotanical knowledge and its territorial grounding. The strong citation of Annona senegalensis among the Kissi clearly illustrates such cultural specificity.Analyses of indices (citation frequency, RI, Jaccard index) reinforce the observation of a common core of major species, supplemented by local specificities. This dynamic of shared and differentiated knowledge has also been demonstrated in other regional studies(13,17).

The Shannon diversity index, found to be high across all sub-prefectures, confirms that local HTN management relies on a wide range of plant species, contributing to the resilience of traditional medical systems(23). The higher diversity in Beindou and Tindo may reflect ecological richness or active cultural exchanges, as suggested by Kone et al.(25) in other African contexts.Regarding plant parts used, the predominance of leaves aligns with the findings of Afolayan &Sofidiya(9), who stressed their accessibility and low toxicity. The variable distribution of other parts (roots, bark) shows that local preferences are shaped by both cultural logics and pharmacological considerations.
The predominance of decoction as a preparation method, particularly in Faranah Center and Kobikoro, corroborates general trends reported by Mensah et al.(26) and WHO(7). This method, valued for its effectiveness in extracting active compounds, remains the dominant preparation technique in African traditional practices.

This study highlights the importance of sociocultural, ecological, and historical factors in shaping ethnobotanical knowledge in Faranah. It aligns with the work of Phillips & Gentry (21) and Martin (27), confirming that traditional knowledge is not static but evolves through community exchanges and cultural dynamics.Beyond species inventories, these findings stress the need for greater recognition of local knowledge in national public health strategies, as recommended by Diop et al. (8), Bah et al.(14), and WHO(7). The integration of traditional medicine, particularly its scientifically validated aspects, represents a relevant lever for improving HTN management in rural Africa.

Finally, this research confirms the relevance of cross-sectoral approaches combining ethnobotany, pharmacology, and public health to sustainably valorize local resources(9,13). It also opens the way for complementary studies on the pharmacological effectiveness of the identified species and on the sociopolitical conditions for valorizing traditional medicines in Guinea.

Conclusion:-

This ethnobotanical study conducted in Faranah Prefecture documented the diversity of plants used in traditional medicine for the treatment of hypertension. The results reveal significant floristic richness, with 52 recorded species belonging to 29 botanical families, and a strong predominance of key species such as Hibiscus sabdariffa, Allium sativum, and Moringa oleifera. These plants, widely recognized in the scientific literature for their antihypertensive properties, occupy a central place in local therapeutic practices.The analysis of practices across sociolinguistic groups and sub-prefectures highlights the influence of cultural and geographical factors on species selection and preparation methods. The almost generalized use of decoction and the preference for leaves demonstrate coherence with practices observed in other African contexts.

These results underline the relevance of traditional medicine as an essential resource for rural populations facing limited access to modern health care. They also call for the valorization of endogenous knowledge and its integration into national public health strategies, in line with WHO recommendations.Finally, this research opens promising perspectives for complementary studies aimed at assessing the pharmacological effectiveness of the identified species, as well as for interdisciplinary work combining ethnobotany, pharmacology, and community health in Guinea.

Conflict of Interest:-

The authors declare that they have no conflict of interest regarding the publication of this paper.

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