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AN INVENTORY OF PLANTS USED IN MANAGING DIARRHOEA AND DYSENTRY IN ANYIGBA, DEKINA L.G.A, KOGI STATE

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ABSTRACT

Diarrhoea and dysentery remain prevalent health issues in many rural communities across Nigeria, often managed using traditional medicinal plants. This study documents an ethnobotanical survey conducted in the Anyigba Dekina Local Government Area (LGA) of Kogi State, Nigeria, aimed at identifying and cataloging plant species traditionally used for the management of diarrhoea and dysentery. Through interviews with 14 respondents, predominantly women and farmers, the study revealed a diverse array of medicinal plants utilized by the local community. A total of 52 plant species belonging to 29 families were recorded, with the Fabaceae and Asteraceae families being the most represented. Leaves were the most commonly used plant part, followed by whole plants, stem barks, and seeds. The documented species exhibited various growth habits, including trees, herbs, shrubs, climbers, and grasses. The study highlighted the prevalent methods of preparation, such as decoctions, infusions, juices, pastes, and topical applications, reflecting the rich traditional knowledge and practices associated with plant-based remedies in the region but also offers a foundation for further pharmacological investigations into the therapeutic potential of these plants.

Keywords: Ethnobotany, Traditional Medicine, Diarrhoea, Dysentery, Medicinal Plants, Kogi State, Nigeria

INTRODUCTION

The use of herbal medicines in healthcare is deeply rooted in human history, providing remedies for various ailments for millennia. This reliance on traditional remedies remains prevalent, particularly in rural areas of developing countries, where approximately 80% of the world's population resides (WHO, 2011). Despite significant advancements in pharmaceuticals, indigenous phytotherapy continues to be practised, passed down through generations and serving as the primary form of healthcare for many rural communities (Goleniowski *et al*., 2006). This enduring reliance on herbal medicines reflects not only their accessibility but also their efficacy and cultural significance within these communities.

The significance of medicinal plants in healthcare is underscored by their vast diversity and widespread usage. Out of over 420,000 flowering plants worldwide, more than 50,000 are employed for medicinal purposes (Schippmann *et al*., 2012). In India alone, over 43% of flowering plants hold medicinal significance, highlighting the rich botanical heritage of the region. However, this traditional knowledge faces challenges such as the fading of traditional practices and diminishing plant populations due to various factors including habitat destruction, overharvesting, and climate change (Rao, 2015). Efforts to document and preserve this knowledge are crucial for ensuring the continued availability and sustainability of medicinal plants.

Plants play multifaceted roles in rural environments, providing not only medicine but also sustenance, shelter, and various other resources essential for human livelihoods. Indigenous knowledge systems encompass a deep understanding of plant diversity and their applications, including medicinal properties (Bhat *et al*., 2010). Ethnobotany, as the interdisciplinary study of these relationships between people and plants, seeks to elucidate the traditional uses of indigenous flora for various purposes, including medicinal and cultural practices (Aiyeloja and Bello, 2006). By documenting and studying these traditional knowledge systems, ethnobotanists can not only contribute to our understanding of local ecosystems but also identify potential sources of new medicines and promote cultural heritage conservation.

Diarrhoea and dysentery are prevalent gastrointestinal ailments that have been historically treated with herbal remedies across diverse cultures. Diarrhoea, characterized by frequent loose bowel movements, poses significant health risks, particularly in developing countries where access to clean water and sanitation may be limited (Celebi *et al*., 2014). Similarly, dysentery, marked by bloody stools and intestinal inflammation, presents substantial challenges, especially in regions with poor hygiene and sanitation practices (Kar and Borthakur, 2008). Traditional treatments for these ailments are of growing interest due to the limitations of conventional therapies, including antimicrobial resistance and adverse side effects. The search for new, effective treatments has led researchers to explore plant-based alternatives, drawing on centuries-old ethnomedicinal knowledge (WHO, 2005).

The history of medicinal plant usage spans human civilization, with discoveries like morphine, digoxin, and quinine shaping modern pharmacotherapy (Rousseaux and Schachter, 2003; Rishton, 2008). These examples demonstrate the potential of plant-derived compounds to serve as valuable therapeutic agents. In recent years, there has been a resurgence of interest in natural products as sources of novel drugs, driven by the limitations of conventional drug discovery approaches and the need for new treatments for diseases such as diarrhoea and dysentery (Li and Vederas, 2009). Ethnobotanical research plays a crucial role in identifying and validating traditional medicinal plants for their pharmacological properties, providing a bridge between traditional knowledge and modern science.

The significance of ethnobotanical knowledge is further highlighted by its role in addressing contemporary healthcare challenges. Despite the advent of synthetic drugs, approximately 80% of the world's population, especially in developing countries, continues to rely on traditional

medicine for primary healthcare needs (WHO, 2005). This reliance stems from factors such as affordability, cultural resonance, and concerns about synthetic drug side effects (Johnson, 1999). Moreover, traditional medicine systems often offer holistic approaches to health and wellness, emphasizing the interconnection of mind, body, and environment.

The use of medicinal plants in the treatment of diarrhoea and other gastrointestinal disorders is a long-standing tradition among indigenous Nigerian communities. In recent years, there has been a growing interest in documenting and validating this rich ethnobotanical knowledge, as evidenced by several studies conducted across various regions of the country.

In a study among the Igala people of Kogi State, Okwu *et al*. (2018) documented 52 plant species belonging to 29 families utilized in the management of diarrhoea and dysentery. Similarly, Afolayan *et al*. (2019) conducted an ethnobotanical survey in Ondo State, identifying 63 plant species from 36 families used by the Yoruba people for treating diarrhoea and related conditions.

In a comprehensive review, Ogbu *et al*. (2020) compiled data from various studies across Nigeria, identifying over 200 plant species belonging to 80 families with reported anti-diarrhoeal properties. Focusing on the Hausa community in Kano State, Sani *et al*. (2021) documented 48 plant species from 28 families used in the treatment of diarrhoea and other gastrointestinal ailments. In a recent study among the Yoruba people of Ogun State, Adeyemi *et al*., (2022) identified 72 plant species from 38 families used in the management of diarrhoea and related conditions.

Several studies have also focused on specific plant species or families, investigating their phytochemical constituents and pharmacological activities related to their traditional uses in treating diarrhoea. For instance, Ajayi *et al*. (2019) evaluated the anti-diarrhoeal and antimicrobial properties of *Alchornea laxiflora,* a plant widely used by the Igbo people of Enugu State, while Okonkwo *et al*. (2020) investigated the antidiarrhoeal activity of *Ageratum conyzoides,* a plant commonly used by the Tiv people of Benue State.

The town Anyigba in Dekina Local Government Area of Kogi State, Nigeria, faces significant health challenges related to the management of diarrhoea and dysentery. Despite advancements in modern medicine, these gastrointestinal ailments continue to pose a considerable burden on the local population, particularly in rural areas where access to healthcare facilities and conventional treatments may be limited. Traditional herbal remedies have long been utilized by communities in the region to alleviate symptoms and treat these conditions. However, there is a lack of comprehensive documentation and scientific validation of the medicinal plants used for managing diarrhoea and dysentery in this specific locality.

The aim of this study is to document and analyze the diversity, local knowledge, and usage patterns of medicinal plants employed in the management of diarrhoea and dysentery among the indigenous people of Anyigba, Dekina L.G.A, Kogi State, with the aim of preserving ethnobotanical knowledge and identifying potential candidates for pharmacological research

MATERIALS AND METHODS

Study Area

The area for this study is Anyigba. Anyigba is a town located in the north-central region of Kogi State, Nigeria, within the Dekina Local Government Area. It lies in the Guinea Savanna ecological zone. The main inhabitants are the Igala people, who speak the Igala language. Their primary occupation is agriculture, cultivating crops like cassava, yams, maize, groundnuts, and soybeans. The area is known for its fertile soils and significant contribution to Nigeria's food production.

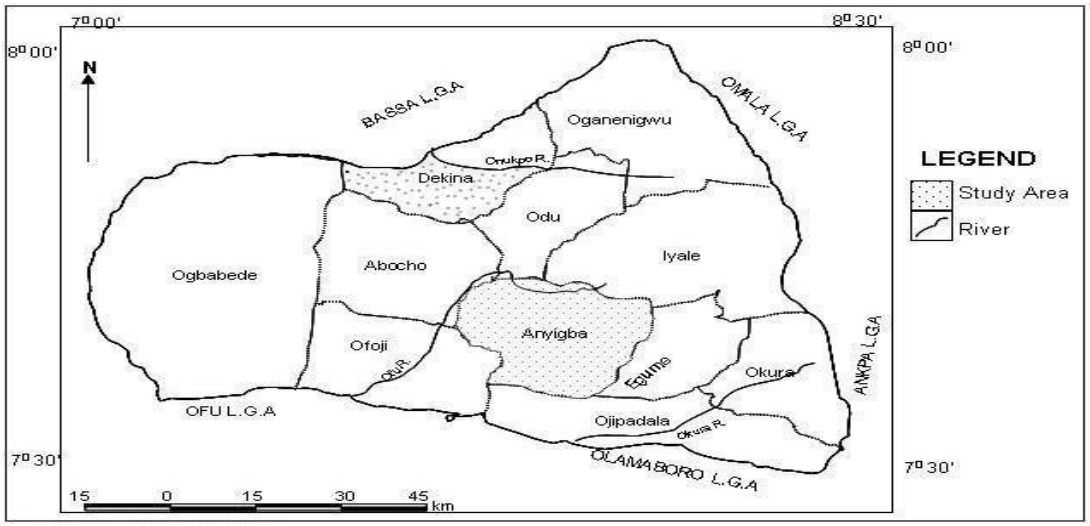

Figure 1: Map of Dekina Local Govt. Showing the Study Area (Anyigba)

Data Collection

Participants were selected using the snowball technique, whereby individuals referred others for inclusion in the study (Cohen *et al.,* 2007). Structured questions were asked during face-to-face interviews with selected elderly people, community adults, and youths. The interviews aimed to obtain information on the names of medicinal plants used for treating diarrhoea and dysentery problems, the plant parts used, the administration route and the traditional names for these ailments.

Plant Collection and Identification

Medicinal plant species were identified following established taxonomic protocols and standard references (Hutchinson and Dalziel, 1954, 1958; Hutchinson et al., 1963; Harris and Harris, 1994; Okezie and Agyakwa, 1998), as well as local monographs and floras. Photographs were taken to aid

identification. A trained taxonomist from the Department of Plant Science and Biotechnology, Ambrose Alli University, assisted in species-level identification. Representative specimens were collected for herbarium mounting, and high-resolution photographs using a Tecno POP 7 Pro Camera further supported the identification process. However, due to the absence of a fully functional herbarium facility at the time of fieldwork and time constraints associated with specimen preservation, the collected specimens were only mounted but not fully processed or deposited. As a result, no voucher numbers are provided in this study. This limitation is acknowledged and further discussed in the relevant section of the manuscript

Data Analysis

Data collected from the study were analyzed using descriptive statistics, including frequency distribution tables and percentages.

RESULTS AND DISCUSSION

Results

Table 1 provides demographic information about 14 individuals interviewed for this ethnobotanical study. The age range of 38-61 years suggests that the respondents were adults with significant experience and knowledge of traditional medicinal practices in their communities. The gender distribution, with 65% (9 out of 14) being women, highlights the important role that women play in preserving and transmitting ethnobotanical knowledge related to the management of diarrhoea and dysentery in this region. Additionally, the high representation of farmers (45% or 6 out of 14) indicates that agricultural communities are likely to be valuable repositories of information about local medicinal plants.

Table 1: Demographics of 14 Interviewed Persons

Respondent ID	Age	Gender	Occupation
R001	48	Female	Farmer
R002	53	Male	Farmer
R003	61	Female	Farmer
R004	42	Female	Farmer
R005	57	Male	Farmer
R006	46	Female	Farmer
R007	39	Female	Herbalist
R008	55	Female	Traditional Healer
R009	43	Female	Trader
R010	51	Male	Hunter
R011	38	Female	Housewife
R012	59	Female	Traditional Birth Attendant
R013	47	Male	Farmer
R014	60	Female	Traditional Healer

Tables 2 and 3 shows the diversity of plant families represented in the inventory from Anyigba Dekina LGA. The Fabaceae (legume) family has the highest number of species at 8 (15.38%), followed by Asteraceae (daisy/sunflower) with 7 species (13.46%). This indicates that these two plant families are likely important sources of medicinal plants for diarrhoea and dysentery treatment in this region. Several other families like Phyllanthaceae, Acanthaceae, Caesalpiniaceae, Lauraceae, Lamiaceae, Meliaceae, Rubiaceae and Euphorbiaceae also have multiple species represented, suggesting their significance in the local ethnomedicinal practices.

Figure 1 highlights the plant parts commonly used. Leaves are the most frequently utilized at 51.35%, which aligns with traditional medicine practices that often favour leaves due to their abundance and ease of collection. Whole plants (6.76%) and stem barks (10.81%) are also important sources, while roots (2.70%), bark (4.05%), and seeds (5.41%) are used to a lesser extent. The limited use of latex (1.35%) and fruits (2.70%) implies they may play minor roles in diarrhoea/dysentery remedies in this area.

Figure 2 provides insights into the growth habits of the medicinal plants documented. Trees make up the largest portion at 36.54%, indicating their importance as sources of antidiarrhoeal/dysenteric treatments. Herbs (21.15%) and shrubs (19.23%) also contribute significantly, likely due to their accessibility in the local environment. Climbers (9.62%) and grasses (1.92%) seem to be less relied upon for managing these conditions in Anyigba, Dekina LGA.

Table 2: Identified Plant Species for the Treatment of Diarrhoea and Dysentry in Anyigba

S/N	Botanical Name	Authority	Common Name	Igala Name	Family	Habit	Part Used
1	*Ageratum conyzoides L.*		Goatweed	Itanajuwe	Asteraceae	Herb	Whole Plant
2	*Acanthosperm um hispidum DC.*		Starbur	Emojo	Asteraceae	Herb	Whole Plant
3	*Erigeron sumatrensis*	Retz.	Fleabane	-	Asteraceae	Herb	Leaves
4	*Aspilia africana*	(Pers.) C.D. Adams	Haemorrhage	idodolo	Asteraceae	Herb	Leaves, Roots
5	*Vernonia amygdalina*	Delile	Bitter Leaf	Ilo	Asteraceae	Shrub	Leaves
6	*Eupatorium odoratum*	L.	Siam weed	Abilewa	Asteraceae	Shrub	Leaves
7	*Tridax procumbens*	L.	Coat Buttons	Abojigbinig bini	Asteraceae	Herb	Leaves
8	*Nelsonia canescens*	(Lam.) Spreng.	Basket Plant	-	Acanthaceae	Herb	Leaves
9	*Paullinia pinnata*	L.	Bossonto	-	Acanthaceae	Woody Climber	Leaves
10	*Annona senegalensis*	Pers.	Wild Custard	Ukpokpo	Annonaceae	Tree	Leaves
11	*Anarcadium occidentales*	L.	Cashew	-	Anacardiaceae	Tree	Bark, Leaves
12	*Alstonia boonei*	De Wild.	Stool Wood	-	Apocynaceae	Tree	Stem Bark
13	*Bryophyllum pinnatum*	(Lam.) Oken	Life Plant	-	Crassulaceae	Herb	Leaves
14	*Burkea africana*	Hook.	Wild Seringa	Ofo	Caesalpiniaceae	Tree	Stem Bark
15	*Piliostigma thonningii*	(Schumach.) MilneRedh.	Camel's Foot	Omukpakpa	Caesalpiniaceae (Fabaceae)	Tree	Roots, Leaves
16	*Terminalia catappa*	L.	Indian Almond	Oli Inale	Combretaceae	Tree	Leaves
17	*Ipomea batatas*	L.	Sweet potato	Uchuopa	Convolvulaceae	Climber	Leaves
18	*Garcinia kola*	Heckel	Bitter Kola	Igoligo	Clusiaceae	Tree	Seeds
19	*Clerodendrum volubile*	P. Beauv.	-	-	Verbenaceae	Climber	Leaves
20	*Amorpha californica*	Nutt.	California false indigo	Ochomadole	Fabaceae	Shrub	Leaves
21	*Desmodium intortum*	Desv.	Tick Clover	Ekpolo	Fabaceae	Herb	leaves
22	*Daniellia oliveri*	(Rolfe) Hutch. and Dalziel	African copaiba	Agba	Fabaceae	Tree	Leaves, Bark
23	*Crotalaria retusa*	L.	Ghee Plant	-	Fabaceae	Herb	Leaves
24	*Indigofera hirsuta*	L.	Hairy Indigo	-	Fabaceae	Shrub	Leaves
25	*Gliricidia sepium*	(Jacq.) Kunth ex Walp.	Mexican Lilac	-	Fabaceae	Tree	Leaves
26	*Mucuna pruriens*	(L.) DC.	Velvet Bean	Igalekpe	Fabaceae	Climber	Seeds
27	*Centrosema pubescens*	Benth.	Centro	-	Fabaceae	Herb	Leaves
28	*Gladiolus quartinianus*	A. Rich.	Wood Gladiolus	Ukpeku	Iridaceae	Herb	Leaves
29	*Persea americana*	Mill.	Avocado Pear	-	Lauraceae	Tree	Leaves, Seeds
30	*Beilschmiedia berteroana*	(Gay) Kosterm	-	Okukuno	Lauraceae	Tree	Leaves
31	*Ocimum gratissimum*	L.	Scent Leaf	Anyeba	Lamiaceae	Shrub	Leaves
32	*Aeollanthus pubescens*	Benth.	Gigant Polka Dot	Ukpeku	Lamiaceae	Herb	Leaves
33	*Sida acuta*	Burm. F.	Broomweed	Efa	Malvaceae	Shrub	Leaves
34	*Synclisia scabrida*	Miers	-	-	Menispermaceae	Climber	Leaves
35	*Khaya ivorensis*	A. Chev.	African Mahogany	Ago	Meliaceae	Tree	Stem Bark
36	*Azadirachta indica*	A. Juss.	Neem	-	Meliaceae	Tree	Leaves, Seeds, Bark
37	*Ficus exasperata*	Vahl	Sand Paper Leaf	Ogbaikolo	Moraceae	Tree	Leaves, Latex
38	*Moringa oleifera*	Lam.	Drumstick Tree	Igeligedi	Moringaceae	Tree	Leaves, Seeds
39	*Lophira lanceolata*	Tiegh. ex Keay	Dwarf Red Ironwood	Okopi	Ochnaceae	Tree	Stem Bark
40	*Psidium guajava*	L.	Guava	igova	Myrtaceae	Shrub	Leaves, Bark
41	*Zea mays*	L.	Maize	Oliakpa	Poaceae	Grass	Leaves
42	*Phyllanthus amarus*	Schumac and Thonn.	Gale of Wind	Oganana	Phyllanthaceae	Herb	Whole Plant

43	*Phyllantus muellerianus*	(Kuntze) Exell	Niezen-bush	Oganana	Phyllanthaceae	Shrub	Leaves
44	*Bridelia ferruginea*	Benth.	Scrub Ironbark	Ede	Phyllanthaceae	Tree	Stem Bark
45	*Citrus sinensis*	(L.) Osbeck	Sweet Orange	Alemu	Rutaceae	Tree	Leaves, Fruit
46	*Morinda lucida*	Benth.	Brimstone Tree	-	Rubiaceae	Shrub	Leaves, Stem Bark
47	*Macrosphyra longistyla*	(DC.) Hiern.	Long-Style Gardenia	-	Rubiaceae	Shrub	Leaves
48	*Newbouldia laevis*	(P. Beauv.) Seem. ex Bureau	Boundary Tree	Ogichi	Bignoniaceae	Tree	Leaves, Stem Bark
49	*Hannoa undulata*	(Guill. and Perr.) Planch.	Abbey Wood	Mopula	Simaroubaceae	Tree	Leaves
50	*Solanum nigrum*	Jacq. Ex Link	Nightshade	-	Solanaceae	Shrub	Leaves, Fruits
51	*Alchornea laxiflora*	(Benth.) Pax and K. Hoffm.	Christmas bush	Eginija	Euphorbiaceae	Shrub	Leaves
52	*Euphorbia hirta*	L.	Asthma Plant	Enya-akpe	Euphorbiaceae	Herb	Whole Plant

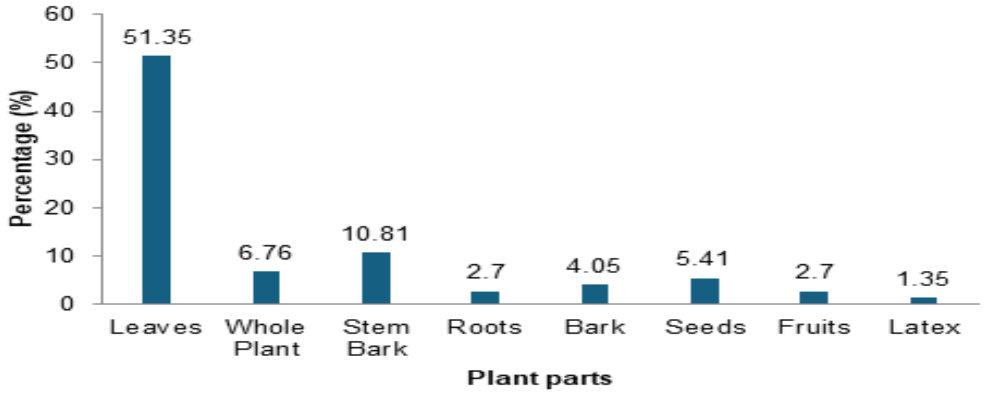

Figure 2: Plant parts commonly used for managing diarrhoea and dysentry in Anyigba, Dekina L.G.A, Kogi state

Table 3: Family, Species Frequency and Percentage

Family	Species Frequency	Percentage
Asteraceae	7	13.46%
Fabaceae	8	15.38%
Acanthaceae	2	3.85%
Annonaceae	1	1.92%
Anacardiaceae	1	1.92%
Apocynaceae	1	1.92%
Crassulaceae	1	1.92%
Caesalpiniaceae	2	3.85%
Combretaceae	1	1.92%
Convolvulaceae	1	1.92%
Clusiaceae	1	1.92%
Verbenaceae	1	1.92%
Iridaceae	1	1.92%
Lauraceae	2	3.85%
Lamiaceae	2	3.85%
Malvaceae	1	1.92%
Menispermaceae	1	1.92%
Meliaceae	2	3.85%
Moraceae	1	1.92%
Moringaceae	1	1.92%
Ochnaceae	1	1.92%
Myrtaceae	1	1.92%
Poaceae	1	1.92%

Phyllanthaceae	3	5.77%
Rutaceae	1	1.92%
Rubiaceae	2	3.85%
Bignoniaceae	1	1.92%
Simaroubaceae	1	1.92%
Solanaceae	1	1.92%
Euphorbiaceae	2	3.85%

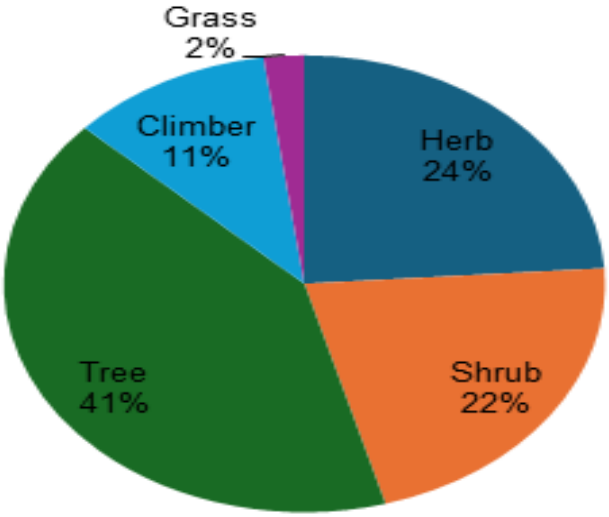

Figure 3: Growth habits of the medicinal plants use for managing diarrhoea and dysentry in Anyigba, Dekina L.G.A, Kogi state

Table 4 offers insights into the specific plant parts used and the methods of preparation reported by the respondents. Notably, all 14 respondents (100%) mentioned using leaves, suggesting that leaves are the most widely utilized plant part for treating diarrhoea and dysentery in the Anyigba Dekina LGA. The high percentages for whole plants (71.43%), stem barks (78.57%), and seeds (64.29%) further emphasize the importance of these plant parts in the local ethnomedicinal practices.

The application methods reported reveal preference for decoctions and infusions, which are common preparation techniques in traditional medicine. Decoctions were reported for leaves by 9 respondents (64.29%), whole plants by 8 respondents (57.14%), stem barks by 7 respondents (50%), and roots by 5 respondents (35.71%). Infusions were also widely mentioned, particularly for leaves (7 respondents, 50%), stem barks (6 respondents, 42.86%), and whole plants (5 respondents, 35.71%). These methods likely involve boiling or steeping the plant parts in water, making them accessible and convenient for local communities.

The use of juices, especially for leaves (4 respondents, 28.57%) and fruits (4 respondents, 28.57%), suggests the incorporation of fresh plant materials in the preparation of remedies. Pastes, reported for seeds by 4 respondents (28.57%), may indicate the use of topical applications or the incorporation of plant materials into edible preparations.

Topical application of latex, mentioned by 3 respondents (21.43%), could be employed for specific symptoms or conditions associated with diarrhoea and dysentery.

Table 4: Plant Parts Used and Frequency/Percentages of Application Methods Reported

Plant Part	Frequency	Percentage	Application Methods Reported (No. of Respondents)
Leaves	14	100%	Decoction (9), Infusion (7), Juice (4)
Whole Plant	10	71.43%	Decoction (8), Infusion (5)
Stem Bark	11	78.57%	Decoction (7), Infusion (6)
Roots	7	50%	Decoction (5), Infusion (3)
Bark	5	35.71%	Decoction (4), Infusion (2)
Seeds	9	64.29%	Decoction (5), Infusion (3), Paste (4)
Fruits	6	42.86%	Juice (4), Decoction (3)
Latex	3	21.43%	Topical Application (3)

Discussion

Ethnobotanical studies play a crucial role in documenting and understanding traditional medicinal practices, particularly in regions where reliance on plant-based remedies is significant. This study delves into a study conducted in the Anyigba Dekina Local Government Area (LGA) of Kogi State, Nigeria, focusing on the management of diarrhoea and dysentery through ethnobotanical practices. The findings of this study provide valuable insights into the local pharmacopoeia, shedding light on the plant species, families, and application methods utilized by the community. Moreover, the study's results not only align with existing

literature but also reveal unique aspects specific to the region, highlighting the importance of preserving and further exploring traditional knowledge and biodiversity.

The prevalence of species from the Fabaceae and Asteraceae families in the ethnobotanical practices of Anyigba Dekina LGA echoes findings from previous studies conducted in Nigeria and neighboring regions. These families have been consistently identified as rich sources of medicinal plants, emphasizing their significance in traditional medicine (Soladoye *et al*., 2010; Udobor *et al*., 2021). However, the presence of numerous species from other families such as Phyllanthaceae, Acanthaceae, Caesalpiniaceae, Lauraceae, Lamiaceae, Meliaceae, Rubiaceae, and Euphorbiaceae suggests a diverse local pharmacopoeia. This diversity may be attributed to the unique ecological and cultural context of Anyigba Dekina LGA, reflecting the region's varied vegetation and indigenous knowledge systems.

The utilization of leaves as a predominant plant part for medicinal purposes aligns with traditional practices observed across Africa. Leaves are favored for their abundance, accessibility, and ease of collection, making them a preferred choice for remedies (Vitalini *et al*., 2013; Wondimu *et al*., 2007). Additionally, the use of whole plants, stem barks, roots, and seeds corroborate findings from previous ethnobotanical surveys, indicating the multifaceted utilization of plant resources in traditional medicine (Amuri *et al*., 2017; Soladoye *et al*., 2010). Notably, the dominance of trees as sources of anti-diarrhoeal and anti-dysenteric treatments in Anyigba Dekina LGA contrasts with some studies that have reported a higher reliance on herbs and shrubs in other regions. This finding underscores the significance of certain tree species in the local pharmacopoeia, which may be influenced by factors such as vegetation patterns, cultural beliefs, and resource availability. Moreover, the widespread use of leaves by all respondents, along with significant percentages for whole plants, stem barks, and seeds, indicates a shared cultural background and underscores the importance of these plant parts in treating diarrhoea and dysentery across different regions of Nigeria.

The application methods reported in the study, particularly decoctions and infusions, are consistent with traditional medicine systems worldwide. These methods are favored for their simplicity, affordability, and ease of preparation, catering to the needs of local communities (Hussain *et al*., 2018; Udobor *et al*., 2021). Furthermore, the use of juices, pastes, and topical applications diversifies the range of preparation techniques and administration routes, potentially addressing various symptoms and conditions associated with diarrhoea and dysentery.

Nevertheless, a key limitation of this study is the absence of voucher specimen numbers for the identified medicinal plants. Although representative specimens were collected and mounted, the lack of a fully functional herbarium facility and time constraints during fieldwork prevented proper processing and deposition of vouchers. While plant identification was conducted using standard taxonomic references and with assistance from a trained taxonomist, the absence of deposited vouchers may limit future verification and cross-referencing of the identified species. This shortcoming is acknowledged, and future studies will prioritize proper voucher collection and deposition to strengthen the scientific reliability and reproducibility of findings.

Also, considering the diverse plant taxa listed in this study, it is pertinent to state that conservation efforts must be strengthened especially with respect to some of the species considered as vulnerable (*Khaya ivorensis* and *Garcina kola*) and threatened (*Beilschmiedia berteroana)* (IUCN, 2025). Biodiversity decline is increasing in many areas in West Africa (Ayeni *et al*., 2023; Ogbevire *et al*., 2025), and this is deeply concerning because plants hosts many unexplored solutions not only to health challenges but to several other socioeconomic challenges of the 21st century.

In summary, the findings of this study contribute significantly to the body of knowledge on ethnobotanical practices in Nigeria. The rich biodiversity and traditional knowledge observed in Anyigba Dekina LGA underscore the importance of documenting and preserving localized medicinal practices. While some aspects of the findings align with previous studies, the unique composition of plant families, species, and application methods highlights the need for further exploration and conservation efforts. Future research endeavors could focus on evaluating the efficacy, safety, and phytochemical properties of the identified plant species, potentially leading to the development of new therapeutic agents or the validation of traditional remedies.

Ethnobotanical studies not only enrich our understanding of traditional medicinal practices but also hold immense potential for drug discovery and sustainable resource management. By acknowledging and supporting the indigenous knowledge systems of diverse communities, we can harness the therapeutic potential of plant biodiversity while promoting cultural preservation and environmental conservation. In this regard, collaborations between ethnobotanists, pharmacologists, and local communities are essential for fostering interdisciplinary research and ensuring the sustainable utilization of medicinal plants for the well-being of present and future generations.

CONCLUSION

The ethnobotanical study conducted in the Anyigba Dekina LGA of Kogi State, Nigeria, has provided valuable insights into the traditional medicinal practices employed by the local community for managing diarrhoea and dysentery. The findings have revealed a significant diversity of plant species and families utilized for this purpose, highlighting the importance of preserving and further exploring this traditional knowledge.

The predominance of certain plant families, such as Fabaceae and Asteraceae, suggests their potential as promising sources for the discovery of bioactive compounds with anti-diarrhoeal and anti-dysenteric properties. The study has also shed light on the preferred plant parts, growth habits, and preparation methods, which can guide future research and development efforts in the field of ethnopharmacology. Furthermore, the significant contribution of women and farmers in preserving and transmitting this traditional knowledge underscores the need to actively involve these groups in conservation efforts and sustainable utilization of medicinal plant resources.

Overall, this study has not only documented the rich ethnobotanical heritage of the Anyigba Dekina LGA but has also highlighted the importance of further exploring and validating the therapeutic potential of the identified plant species. By integrating traditional knowledge with modern scientific investigations, there is a potential for developing new, effective, and culturally-appropriate treatments for diarrhoea and dysentery, ultimately benefiting local communities and contributing to global health efforts.

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