

Therapeutic Plants Used For Maintaining/Enhancing Health Conditions in Owode-Yewa South Local Government, Ogun State, Nigeria: An Ethno-Pharmacological Survey

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Abstract- Herbal therapy involves the use of plant-based products for therapeutic purposes and remains a popular and effective treatment option for various illnesses. This study aimed to conduct an ethnobotanical survey of therapeutic plants used for maintaining/enhancing health conditions in Owode-Yewa South Local Government, Ogun State, Nigeria. A total of 50 questionnaires were distributed to gather information about the use of medicinal plants in the treatment of diseases. The collected data were analyzed using Excel 2016 and SPSS 20. Results revealed that sixty (60) therapeutic plants were identified for treating or maintaining thirty (30) different illnesses, with trees (49%) and shrubs (31%) being the most common types. The leaves (42%) and bark (19%) were the most frequently utilized parts of the plants, while decoction (49%) was the predominant method of preparation, with water (67%) serving as the primary solvent. Large number of the plants are mono-therapeutic while few are known as poly-therapeutic while majority of treated of maintained illnesses are Infectious (47%). This study contributes valuable insights into the medicinal plants used in the local area and highlights the urgent need for conservation efforts and the integration of these practices into formal healthcare systems.

Keywords: Therapeutic Plants; Owode-Yewa, Ethno-Pharmacological Survey

1. Introduction

Traditional medicine remains a cornerstone of primary healthcare in many developing countries, particularly in sub-Saharan Africa, where a significant proportion of the population relies on plant-based remedies for managing various health conditions (WHO, 2019). In Nigeria, the use of therapeutic plants is deeply rooted in cultural heritage, spiritual belief systems, and local knowledge passed down through generations (Akinmoladun *et al.*, 2020; Umoren *et al.*, 2022). Despite the growing influence of Western medicine, herbal remedies continue to play an essential role in preventive, promotive, and curative health strategies among rural communities.

Owode-Yewa South Local Government Area of Ogun State, Nigeria, represents a typical agrarian region where access to conventional healthcare facilities is limited. Consequently, traditional medicine, especially the use of medicinal plants, has remained a widely accepted and affordable form of health maintenance and disease management (Fasola & Egunyomi, 2021). Indigenous knowledge systems in the area have preserved diverse applications of herbs for treating ailments such as malaria, gastrointestinal disorders, hypertension, infertility, and skin infections.

Ethno-pharmacological surveys provide a valuable approach to documenting this indigenous knowledge before it is lost due to urbanization, cultural erosion, and the declining number of traditional healers (Okoye *et al.*, 2022). These surveys also offer insight into plants that may serve as leads for pharmaceutical development, particularly in the search for novel bioactive compounds with fewer side effects than synthetic drugs (Iwu, 2014). Moreover, cataloging ethnomedicinal practices can contribute to the conservation of biodiversity and sustainable use of plant resources.

This study aims to identify and document the therapeutic plants used by local herbal practitioners and community members in Owode-Yewa South for maintaining or enhancing health. Seeking to understand the methods of preparation, administration routes, perceived efficacy, and associated sociocultural beliefs.

2. Materials and Methods

Study Area

Yewa South is a Local Government Area located in the western part of Ogun State, southwestern Nigeria, which shares a border with the Republic of Benin. The headquarters of Yewa South is in the town of Ilaro, situated at coordinates 6°53'00"N 3°01'00"E in the northern region of the area. The Local Government Area covers an area of 629 km² and had a population of 168,850 according to the 2006 census. Yewa South comprises 10 political wards: Ilaro I, Ilaro II, Ilaro III, Iwoye, Idogo, Owode I, Owode II, Ilobi/Erinja, Oke-Odan, and Ajilete. The inhabitants primarily speak the Yewa and Egun dialects of the Yoruba language and predominantly practice Christianity and Islam. Farming is the primary occupation in this area, especially in the cultivation of crops such as rice, cocoa, and palm oil. Other occupations include textile weaving, dyeing, and blacksmithing (Yewa South, Ogun State, 2021).

Research Design

The study adopted a survey research design; by this method the researcher used structured questionnaires to obtain data from a sample of the population in order to make a generalization for the purpose of the study.

Data Collection

Source of data collection are primary source which include a set of questionnaires. The source of data requires the administration of a questions to respondent in order to support the finding of the research.

Administration of Questionnaire

A total of sixty (50) questionnaires were randomly administered to respondents (herbalist, herb sellers, people using medicinal plants, Traditional Practitioners) to obtain information about the usage of medicinal plant in the treatment of disease in the local government areas. The questionnaire was divided into three sections. Section A: Demographic information such as gender, age group, occupation, religion and literacy level. Section B: knowledge and usage of medicinal plants such as the source of medicinal plant usage knowledge, years of experience. Section C: List of medicinal plants used in treatment of different ailments., which is divide into name of plant, habit of plant, source of plant, plant parts used, ailments plant is used for, mode of preparation of plant material, Solvent used and route of administration.

Data Management and Analysis

Collected data was analyzed using Microsoft excel 2013 and statically package for social sciences (SPSS 21).

3. Results

Socio-economic information

The socioeconomic data of the respondents presented in Table 1 reveals that 4% were male, while 96% were female. In terms of age distribution, 44% of respondents were between 18 and 40 years old, 38% were aged 41 to 59 years, and 18% were over 60 years old. Among the respondents, 12% identified as herbalists, 48% were herbal sellers, which represented the largest group, 16% were users of medicinal plants, and 24% were traditional medical practitioners. The results indicated that 34% of respondents were Christians, 38% were Muslims, and 28% practiced traditional religions. In terms of education, 14% had no formal education, 38% had completed primary education, 44% had secondary education, and 4% had attained tertiary education. The experience of the respondents varied from 15 to 50 years.

Table 1: Socio-economic data of the respondents

Parameters	Frequency	Percentage
Gender		
Male	02	04
Female	48	96
Total	50	100
Age Group		
18-40	22	44
41-59	19	38
>60	09	18
Total	50	100
Occupation		
Herbalist	06	12
Herb seller	24	48
People who use medicinal plants	08	16
Traditional medical practitioner	12	24
Total	50	100
Religion		
Christianity	17	34
Islam	19	38
Traditional	14	28
others	0	0
Total	50	100
Literacy level		
No formal education	07	14
Primary	19	38
Secondary	22	44
Tertiary	02	04
Total	50	100

Experience of the respondents ranges from 15-50 years.

Therapeutic plants

Table 2 displays a list of medicinal plants utilized for the treatment of various ailments. A total of 60 medicinal plants were identified for the treatment of 30 different ailments. Among these plants, 49% were trees and 31% were shrubs (Figure 1a). The parts of the plants used included 42% leaves and 19% bark (Figure 1b). In terms of preparation methods, 49% were prepared as decoctions, while 21% were soaked (Figure 2a). The primary solvents employed for the preparation of these plants were predominantly water (67%) and alcohol (14%) (Figure 2a). Majority of the illnesses treated or maintained with the therapeutic plants are Infectious (41%) followed by others (31%), Figure 3.

Table 2: Recorded list of therapeutic plants used in the treatment/maintenance of illnesses

Botanical Name	Common Name	Local name (Yoruba)	Habit	Part Utilized	Mode of preparation	Solvent/Additive	Health Condition	Method of Administration
Adansonia digitata	African Baobab tree	Osunsun	Tree	Root	Soak	Alcohol	Sexual Enhancement	One cup occasionally before copulating.
Aframomum melegueta (K Schum)	Alligator pepper	Atare	Herb	Leaf, seed	Decoction/Soak/Grind	Water/Pure Honey/Alcohol	Fever/Cough/Brain Enhancement/Uvulitis	Lick periodically/put and allow to stand in the mouth for some minutes
Allium cepa	Onion	Alubosa	Underground stem	Leaf/Bulb	Decoction/Soak	Water/7up	Malaria	Drink at anytime
Allium fistulosum	Spring Onion	Alubosa Elewe	Herb	Leaf	Decoction	Water	Anemia	Drink with milk
Allium sativum L.	Garlic	Aayu	Underground stem	Bulb	Decoction	Water	Abdominal pain, Fever	Drink at anytime

Anthocleista djalonensis	Soapwort	Sapo	Herb	Bark/Leaf	Decoction/Co ok		Haemorrhoid/ Malaria/Typhoid/ Gonorrhea	Drink at anytime
Areaceae	Palm	Eme	Tree	Bark	Decoction	Water	Cleaning of the body	Once or little daily
Azadirachta indica (A. Juss.)	Neem	Dongoyaro	Shrub	Leaf/ Bark	Decoction, Cook	Water	Fever, Typhoid Fever	Drink at anytime
Bambusa vulgaris L.	Bamboo	Oparun	Shrub	Leaf	Decoction, Cook	Water/ Pap-water	Fever	Drink at anytime
Barbarea vulgaris	Barb	Agbaa	Climber	Seed	Grinding	Local soap	Female Infertility	Rub on the vagina
Bryophyllum pinnatum	Resurrection	Abamoda	Shrub	Leaf	Raw	-	High blood pressure	Before breakfast
Calotropis procera R. Br	Milk weed	Bomubomu	Shrub	Leaf	Decoction	Water	Jaundice	Drink at anytime
Carica papaya (Linn.)	Pawpaw	Ibepe	Tree	Leaf	Decoction	Water	Fever	Drink at anytime
Carpolobia lutea	Cattle stick	Egbo	Tree	Root	Soak	Alcohol	Sexual Enhancement	One cup occasional ly before copulating

Chromolaena odorata	Siam weed	Arasado	Tree	Leaf	Decoction	Water	Infantile Seborrheic Dermatitis	Drink and bath at anytime
Cissia fistula L.	Golden shower	Aidontoro	Tree	Root	Soak	Water/alcohol	Haemorrhoid	Drink at anytime
Citrus aurantifolia (Christm. & Panzer)	Lime	Osan wewe	Tree	Fruit	Juice	-	Abdominal pain	Drink with having pain
Citrus sinensis (Linn.)	Orange	Osan	Tree	Fruit	Decoction	Water	Typhoid	Give little quantity thrice daily
Crassocephalum crepidioides	Fireweed	Ugoro	Herb	Leaf	Cook/Squeezed /Extract	Water	Malaria/Headache	Drink at anytime
Crassula ovata	Wealth Plant	Aje	Tree	Leaf	Decoction	Water	Haemorrhoid	Drink at anytime
Crinum jargus	St. Christopher lily	Ogede Oodo	Shrub	Root/Fruit	Decoction/Soak	Water	Convulsion	Drink little and bath
Cryptolepis sanguinol	Quinine	Paran pupa	Shrub	Root	Soak	Water	Worm Infestation	Give little quantity in the

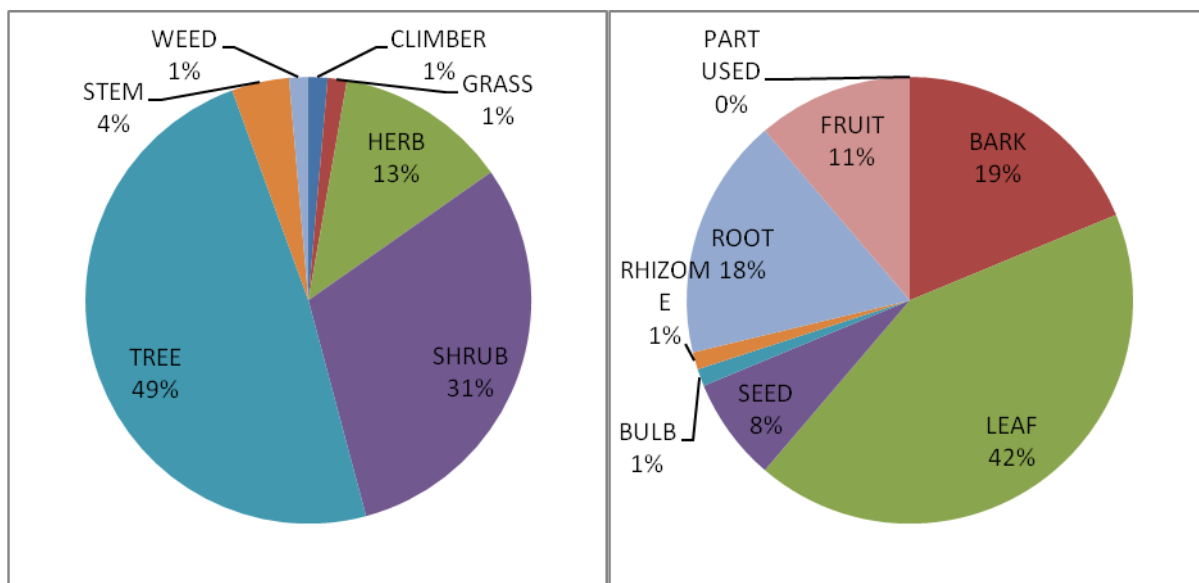
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Cucumis melo	Christmas melon	Bara	Tree	Seed	Decoction	Water	Gonorrhea	Drink Schnapps cover size often
Cymbopogon citratus	Lemon grass	Koriko-Oba/ewe tea	Weed	Leaf	Decoction	Water/Pap-water	Fever, Malaria, Typhoid	Drink at anytime
Daniellia oliveri	African Balsam tree	Iyaa	Tree	Bark	Decoction	Water	Convulsion	Drink when on attack
Garcinia kola	Bitter Kola	Orogbo	Tree	Bark	Decoction	Water	Malaria/Typhoid	Drink at anytime
Gossypium barbadense L.	Cotton	Owu-Akese	Shrub	Bark	Cook	Water	Malaria/Typhoid	Drink at anytime
Heliotropium indicum	Indian heliotrope	Ogbe Ori Akuko	Herb	Leaf	Cook	Water	Placenta disturbance	Drink at anytime
Hibiscus rosasinesis	Hibiscus	Zobo	Tree	Leaf	Decoction	Water	Cold	Drink and inhale at anytime
Hippocratea indica (Hutch. & M. B.)	Bitter sweet	Ponjuowiwi	Shrub	Bark/Root	Soak/Cook/Decoction	7 up Drink / Pap Water	Malaria/Typhoid	Drink at anytime

Moss)								
Hunteria umbellata (K.Schum) Hallier f.	Umbrella Hunteria	Aberere	Tree	Seed	Soak	Water	Haemorrhoid	Small Cup for children
Hydrangea macrophylla	Bigleaf hydrangea	Omisimi	Tree	Leaf	Shea butter	-	Cough	Drink little
Kigelia africana (Lam.) Benth.	Sausage Tree	Pandoro	Tree	Fruit	Decoction/Soak	Pap Water	Malaria/Fibroid	Drink at anytime
Mangifera indica L.	Mango	Mongoro	Tree	Leaf,Bark	Decoction, Cook	Water	Typhoid fever	Drink at anytime
Manihot esculentum Crantz	Cassava	Paki	Shrub	Leaf	Decoction	Water/ mix with Local Soap	Measles	Bath and drinkat anytime
Morinda lucida Benth	Brimstone Tree	Oruwo	Tree	Leaf	Decoction, Cook	Water	Urinary tract infection	Drink at anytime
Moringa oleifera Lam.	Moringa	Ewe-ile	Tree	Leaf	Decoction	Water	Fever	Drink at anytime
Mucuna pruriens	Devils beans	Werepe	Shrub	Leaf	Extract	-	Anaemia	Drink at anytime

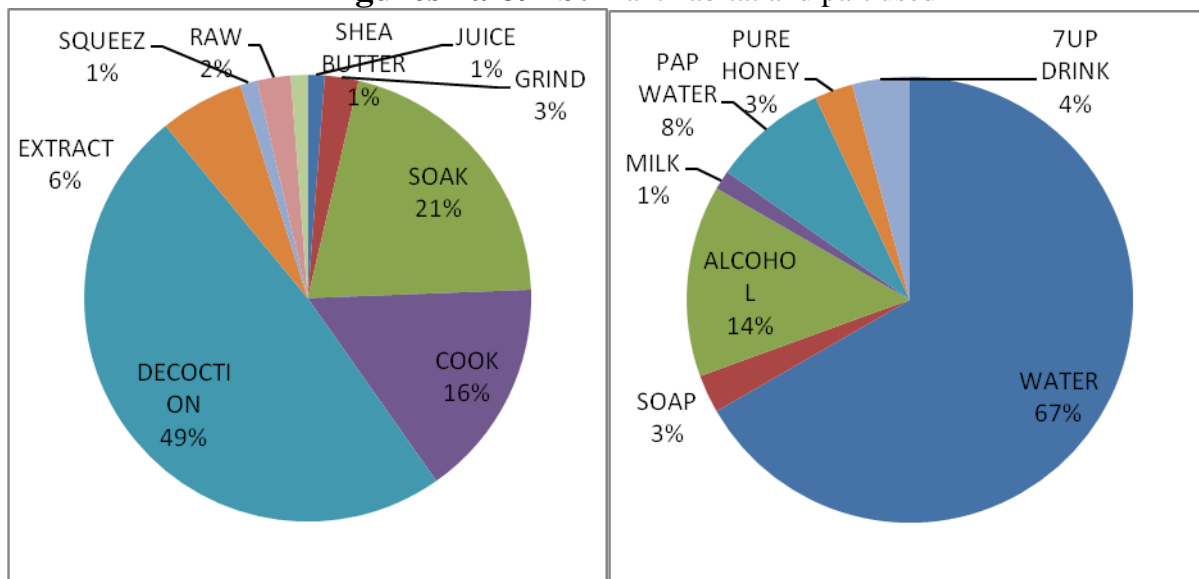
Nauclea latifolia	African peach	Egbesi	Shrub	leaf	Decoction	Water	Malaria/Typhoid	Drink at anytime
Ocimum gratissimum	African Basil	Efinrin	Shrub	Leaf/Root	Extract/Decoction	Water/Milk	Pile/Infection/Jau ndice	Drink at anytime
Oenothera biennis	Evening primrose	Rere	Herb	Bark	Cook	Pap Water	Inflamed Stomach	Drink at anytime
Parkia biglobosa	Locust beans	Iru	Tree	Seed	Decoction	Water	Eye defect	Drink and use for washing the face at anytime
Piper guineense	African black pepper	Eyere	Tree	Seed	Soak	Water	Haemorrhoid	Drink at anytime
Capsicum annum	Cayenne pepper	Atajosi	Shrub	Seed	Soak	Alcohol	Uvulitis	Put and allow to stand in the mouth for some minutes
Quararibea turbinata	Swizzle stick	Asofeyeye	Tree	Root	Decoction	Water	Detoxification	Drink at anytime
Ricinus communis	Stomach tree	Ifun	Tree	Root	Soak	Water	Convulsion	Drink before eating in the

								morning weekly/m onthly
Salvia officinalis	Sage	Akogun	Scrub	Root/Bark	Soak	Water	Haemorrhoid	Drink at anytime
Scenecio abyssinicus	Ragwort	Oniyemiye	Shrub	Leaf		Pure Honey	Brain function	Lick periodically
Solanecio biafrae	Bologi	Worowo	Shrub	Leaf	Cook	Water	Placenta	Drink at anytime
Sorghum bicolor (L.) Moench	Sorghum	Poporo	Grass	Leaf	Decoction	Water	Anaemia/Amenorrhoea	Drink two or three times daily
Spondias mombin L	Hog plums	Iyeye	Tree	Leaf	Cook		Cough	Drink at anytime
Telfaria occidentalis Hook. F.	Fluted Pumpkin	Ugwu	Shrub	Leaf	Soak	Water	Anaemia	Give before breakfast
Terminalia avicennoides	Baushe	Idi	Tree	Bark	Decoction	Water	Haemorrhoid	Drink at anytime
Tetrapleura tetraptera	Aidan	Aidan Onigun	Tree	Fruit	Decoction	Water	Convulsion	Drink when on attach

Sida acuta	Wireweed	Isekotu	Tree	leaf	Extract	Water	Ulcer/ Infantry Paralysis	Drink at anytime
Theobroma cacao	Cocoa	Cocoa	Tree	Bark	Decoction	Water	Anaemia	Drink at anytime
Treculia africana	African Breadfruit	Oniwo	Tree	Root/Bark/Leaf	Soak/Cook/Decoction	7 up Drink/ Pap Water	Malaria/Typhoid/ Measles	Drink at anytime
Vernonia amygdalina Delile	Bitter leaf	Ewuro	Shrub	Leaf	Extract	Water/Alcohol	Jaundice, Malaria, Cold, Diabetes	Drink at anytime
Zingiber officinale	Ginger	Ata ile	Herb	Rhizome	Raw, Decoction,	Water/Alcohol	Fever/Jaundice/H emorrhoid (Pile)	Drink at anytime



Figures 1a & 1b: Plant habitat and part used



Figures 2a&2b: Mode of preparation and solvent (additive) used

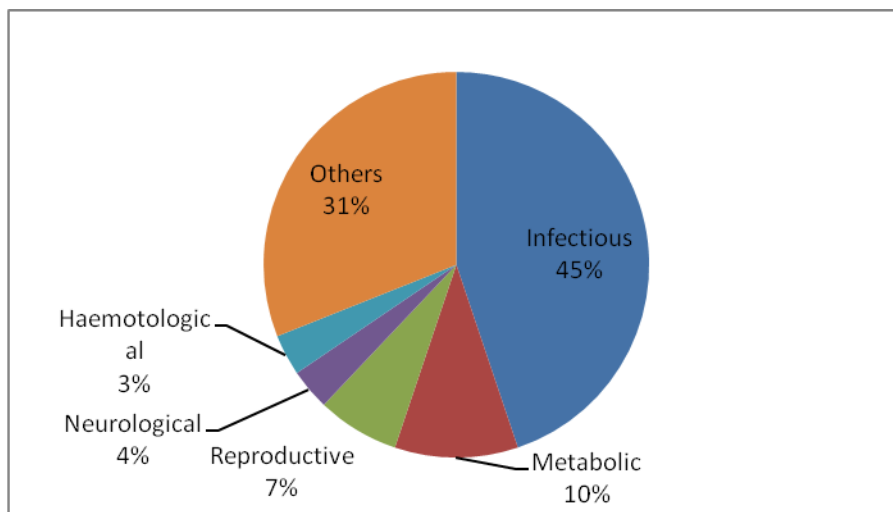


Figure 3: Percentage of illness treated/maintained with therapeutic plants

4. Discussion

The socioeconomic profile of the respondents indicates a significant gender imbalance, with females dominating the practice and use of medicinal plants compared to males. This is consistent with findings from other ethnobotanical studies in sub-Saharan Africa, where women serve as primary custodians of medicinal plant knowledge and play key roles in household healthcare provision (Olorunnipa *et al.*, 2021; Moyo *et al.*, 2019). The predominance of respondents aged 18–40 years and 41–59 years reflects active knowledge transfer between generations, although the smaller proportion of respondents over 60 years may signal the gradual decline of elderly knowledge holders (Uddin *et al.*, 2020).

Occupationally, herbal sellers represented the largest group, followed by traditional medical practitioners. This aligns with previous reports that commercial trade in medicinal plants is a major livelihood source in rural and peri-urban communities (Adebayo & Ayeni, 2022). The religious diversity of respondents demonstrates that ethnomedicinal practice transcends religious affiliation, a pattern also observed in other Nigerian studies (Yekeen *et al.*, 2018).

Educationally, most respondents had at least primary and secondary education, indicating potential for integrating formal and indigenous knowledge systems (Okoli *et al.*, 2021). The range of experience highlights the richness of community-based expertise.

Ethnobotanical data revealed sixty medicinal plants used to treat/ maintain thirty ailments, with trees and shrubs as predominant growth forms. Leaves and bark were the most utilized plant parts, consistent with previous studies noting the preference for leaves due to their renewability and high phytochemical content (Ajao *et al.*, 2023; Ibrahim *et al.*, 2017). Decoction was the most common preparation method, followed by soaking, with water as the primary solvent. This reflects both cultural tradition and the accessibility of water-based extractions, as observed in similar Nigerian ethnomedicine surveys (Odeyemi *et al.*, 2020).

Overall, these findings emphasize the socio-cultural and ecological embeddedness of therapeutic plant use in the study area, with women as an important knowledge bearer, commerce as a major driver of practice, and preparation techniques rooted in tradition but adaptable to modern integration.

5. Conclusion

This study highlights that women are the primary custodians of therapeutic plant knowledge in the study area, actively involved in therapeutic practices and herbal product trade. Further more, younger generations are participating, while the number of elderly knowledge holders is declining. Medicinal plants, especially trees and shrubs, are crucial for primary healthcare, with leaves and bark being the most utilized parts. Preparation methods like decoction and soaking reflect cultural norms and accessibility. To preserve this knowledge and biodiversity, there is a progressive need for documentation, sustainable harvesting strategies, and the integration of indigenous knowledge into formal healthcare systems.

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Author Contributions

ODU and OOO were responsible for the study design, LEC and NMN were responsible for the conduct of the study, ODU and AAA were involved in data analysis and interpretation. Finally, the manuscript was written and edited by LEC, OOO and NMN. All authors read and approved the final version of the manuscript for publication.

Ethical Considerations

Not applicable

Conflicts of interests

The authors declare that there are no conflicts of interests.

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Data and materials availability

All data associated with this study are present in the paper.

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