



**PERCEPTIONS ON PLANT SPECIES THAT CAN BE USED FOR THE  
MANAGEMENT AND CURE OF COVID 19 BY RESIDENCE OF IJEBU IGBO,  
OGUN STATE, NIGERIA**



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**Abstract**

Covid-19 pandemic is a global disease spread that has claimed several lives across the globe. This ailment defied some preliminary medicines that were tested to avert the disease. Up till now there is still a continuous search and scientific studies to discover cure for this wide spread ailment. But the knowledge of the local people cannot be overlooked in the search for cure of this deadly disease. This makes ethno-medicinal studies on Covid-19 of a great importance. In this study, ethno-medicinal survey of plant taxa that have the potential to cure and manage Covid-19 was conducted in Ijebu igbo, Ogun-State, Nigeria. Different plant species from diverse plant families was documented and different parts of these plant species was also documented. This study hereby concludes that the local people believe that Covid-19 can be locally managed. A thorough phytochemical studies on taxa captured in this study is highly recommended in the process of search for cure and management of Covid-19.

**Keywords:** Alternative therapies, indigenous knowledge, plant parts, plant species, traditional medicine

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**Introduction**

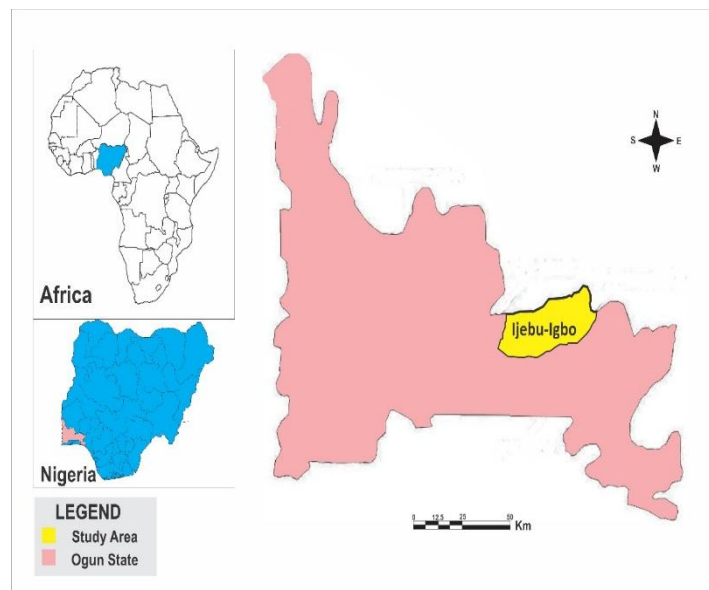
Managing ailments through the use of traditional medicine is an ancient practice and this ancient practice is what metamorphosed into the modern medicine (Kinghorn 2002 Rasethe *et al.*, 2022). Plant parts with different mode of preparation and administration have been employed since the time immemorial to cure different kind of diseases and also to act as preventive medicine against the surge of some locally recognized diseases (Van Wyk *et al.*, 2009; Mukunga 2011; Mothibe *et al.*, 2019).

Pandemic surge is not new to the world but became uncommon over a long period of time which makes the current global pandemic called Covid 19 shake the world (Moren *et al.*, 2009). Before now, new outbreaks of diseases have been responded to by the use of local herbs in Africa when there were no availability of modern medicine (Olabode *et al.*, 2014b; Abramowitz *et al.*, 2015). For instance malaria outbreak in Nigeria was smartly responded to by local people through the use of local herbs and this has proved to be an effective mechanism in which malaria can still be well managed till this present time (Anah 1982; Adekunle 2008; WHO 2008).

Covid 19 is currently an incurable disease that have resulted into several deaths of people in every parts in the world. There are ongoing intensive research to find cure and lasting solution to this disease. Due to believe of Nigerians in the use of traditional medicine in cure and management of chronic and incurable diseases (Gbolade 2012; Ezuruike *et al.*, 2014; Gbadamosi 2014; Jayeoba and Bamigboye 2020), there is a need to determine the perception of the local people on plant species that they believed have the potentials to cure and manage Covid 19.

In this study ethno-medicinal survey was conducted in Ijebu Igbo community, Ogun state in Nigeria to investigate plant taxa that the local people perceived can serve as cure for Covid 19.

**Materials and Methods**



**Figure 1: Map showing the study area surveyed in this study**

Semi structured questionnaires were administered to 50 people from a particular community called Ijebu Igbo in Ogun State in Nigeria. Ijebu Igbo is a small town in Ogun State in South-western part of Nigeria. It is a region characterized by high deciduous rainforest. This community

is made up of Yoruba speaking people. The people were interviewed in their local language which is Yoruba language. A prior consent on demanding information for research purpose alone was sought from each respondent in order to be able to clarify that any information they supply is not meant for commercial purposes but for research purpose alone. Demographic information of each of the respondents were collected and documented. The category of people interviewed includes herbalists, herb sellers, traders and artisans. The people were asked about plant species that they believed can cure Covid 19, the parts of those plants that can be used for that purpose, their mode of preparation and administration. Through local names of the plants, it was easy to document the list of plants species from the indigenous knowledge holders. Online sources which include Google scholar, Ebscohost, Science direct and Scopus were used in translating the local names of the plants into the botanical names. Along this online sources, a book title "Vernacular names of Nigerian plants" published by Gbile (1980) which contains the list of Nigerian plants in the local language was also used for further identification of the

plant species encountered in this study. Pictures of all the plant species encountered were displayed to the local people for more identification and this pictures were taken to the Forest Research Institute of Nigeria herbarium in Oyo State Ibadan Nigeria for further identification.

### Results

In this study, 45 medicinal plant species belonging to 29 plant families were mentioned by the respondents as plant taxa believed to have potential cure for Covid 19. The leaf is the most mentioned part of the plant taxa encountered in this study. The mode of preparation most mentioned is decoction followed by maceration. The number of species mentioned by the respondents falls under different plant families as follows. Asteraceae 4, Leguminaceae 1, Annonaceae 3, Liliaceae 2, Lythraceae 2, Piperaceae 1, Apocynaceae 4, Lamiaceae 1, Bursaraceae 1, Moraceae 1, Bignoniaceae 1, Melliaceae 2, Rubiaceae 2, Poaceae 2, Zingiberaceae 3, Araceae 1, Plumbaginaceae, Labiateae 1, Phyllantaceae 1, Moringaceae 1, Boraginaceae 2, Fabaceae 1. The two most represented plant families are Apocynaceae and Asteraceae.

**Table 1: The List of plant species encountered during the Ethnomedicinal survey**

Plant species	Local names	Family	Plant part that can be used	Mode of preparation
<i>Vernonia amygdalina</i> Del	Ewuro	Asteraceae	Leaf	Decoction, cook as soup, Compression, infusion in water
<i>Tetrapleura tetraptera</i> (Schumach. And Thonn)	Aridan	Leguminaceae	Pod	Decoction
<i>Xylopiya aethropica</i> (Dunal) A. Rich	Erinje	Annonaceae	Fruit	Decotion
<i>Alium cepa</i> L.,	Alubosa	Liliaceae	Bulb	Decoction, place under foot
<i>Lawsonia inermis</i> L.	Opoto	Lythraceae	Leaf	Decoction
<i>Peperomia pellucida</i> (L.) Kunth	Renren	Piperaceae	Leaf	Cook as soup
<i>Calotropis procera</i> (Aiton) W.T Aiton	Bomubomu	Apocyceae	Leaf, root	Cook as soup, decoction
<i>Occimum gratissimum</i> L.	Efinrin	Lamiaceae	Leaf	Compression, decoction, maceration
<i>Canarium schweinfurthi</i> Engl	Awogbarun	Burseraceae	Leaf	Compression, decoction

<i>Ficus exasperate</i> (Vahl)	Epin	Moraceae	Leaf	Compression
<i>Newbouldia laevis</i> (P. Beauv.) Seem.	Akoko	Bignoniaceae	Leaf	As soap for bathing
<i>Morinda lucida</i> Benth	Oruwo	Rubiaceae	Leaf	Compression, infusion with alcohol, decoction
<i>Cymbogon citratus</i> Stapf	Koko oba	Poaceae	Leaf	Decoction
<i>Aframomum melegueta</i> (Roscoe) K. Schum.	Atare	Zingiberaceae	Fruit	Burn the fruit and inhale
<i>Gossypium arboreum</i> Linn.	Owu	Malvaceae	Leaves	Burn the fruit and inhale
<i>Curcuma longa</i> L.	Etale pupa	Zingiberaceae	Root	Decoction
<i>Ageratum conyzoides</i> L.	Imi esu	Asteraceae	Leaf	Decoction, as soup
<i>Elytraria marginata</i> Vahl	Eso	Acanthaceae	Leaf	As soup
<i>Zingiber officinale</i> Rosc.	Etale funfun	Zingiberaceae	Root	Maceration
<i>Alium sativum</i> L.	Aayu	Amyrillidaceae	Bulb	Maceration
<i>Chromolaena odorata</i> (L.) R.M. King & H. Rob.	Awolowo	Asteraceae	Leaf	Decoction
<i>Khaya grandifolia</i> (Welw) C.D.C.	Oganwo	Meliaceae	Bark	Maceration
<i>Rauvolfia vomitoria</i> Afzel.	Asofeyeje	Apocynaceae	Leaf	Decoction
<i>Anchomanes difformis</i> (Bl.) Engl.	Ogirisako	Araceae	Root	Maceration
<i>Plumbago zeylanica</i> L.	Inabiri	Plumbaginaceae	Leaf	Decoction
<i>Clerodendron polycephalum</i> Bak.	Agbosa	Labiatae	Leaf, root	Decoction
<i>Lactuca canadensis</i> L.	Yanrin	Asteraceae	Leaf	Cook as soup
<i>Phyllanthus amarus</i> L.	Eyin olobe/feyinbisanwo	Phyllanthaceae	Leaf	Decoction
<i>Lawsonia inermis</i> L.	Laali	Lythraceae	Leaf	Decoction
<i>Azadirachta indica</i> A.Juss.	Dongoyaro	Meliaceae	Leaf	Decoction
<i>Moringa oleifera</i> Lam.	Ewe ile	Moringaceae	Leaf	Decoction
<i>Heliotropium indicum</i> L.	Atapariobuko	Boraginaceae	Leaf	Decoction
<i>Alstonia boonei</i> De Wild	Ahun	Apocynaceae	Leaf	Decoction
<i>Hunteria umbellata</i> (K. Schum.)	Abere	Apocynaceae	Seed	Infusion in water
<i>Khaya grandifolia</i> (Welw) C.D.C.	Oganwo	Meliaceae	Leaves	Maceration
<i>Xylopi aethiopica</i>	Erinje	Annonaceae	Fruit, bark, leaf	Maceration
<i>Nauclea latifolia</i> (Dunal) A. Rich	Egbesi	Rubiaceae	Bark	Infusion in water
<i>Mangifera indica</i> L.	Mangoro	Anacardiaceae	Leaf	Decoction

<i>Sorghum bicolor</i> L. Moench	Poporo oka	Poaceae	Leaves	Maceration
<i>Eleusine indica</i> (L.) Gaertn.	Gbegi	Malvaceae	Leaf	Maceration
<i>Citrus aurantifolia</i> (Christm.) Swingle)	Orombo	Rutaceae	Fruit	Decoction
<i>Anona senegalensis</i> Pers.	Arere	Annonaceae	Bark	Decoction
<i>Psidium guajava</i> L.	Goroba	Mrytaceae	Leaf	Decoction
<i>Ananas comosus</i> (L.) Merr	Ope oyinbo	Bromeliaceae	Fruit	Decoction, maceration
<i>Parquetina nigrescens</i> (Afzel)	Ogbo	Asclepiadaceae	Root	Decoction

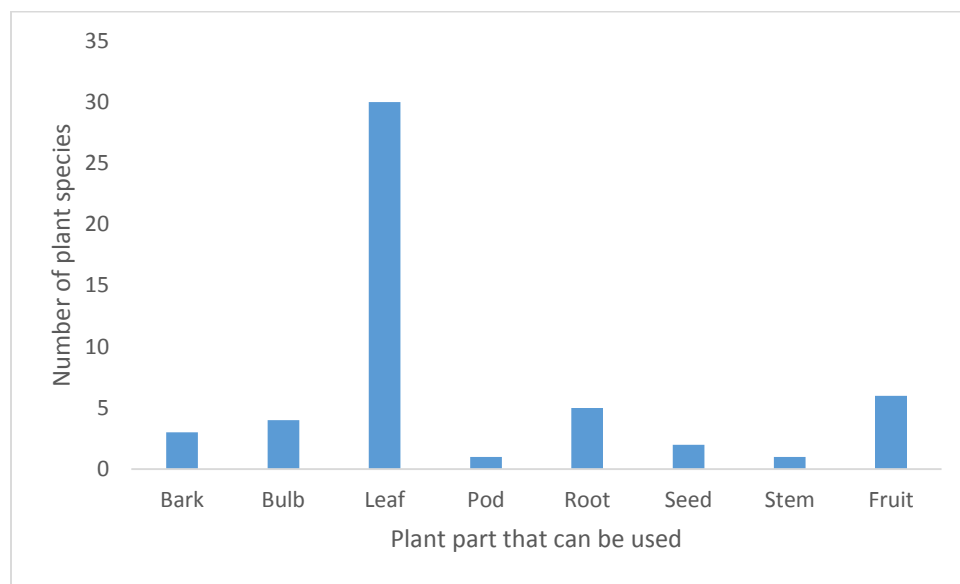


Figure 2: Number of plant species whose parts were mentioned by the respondents

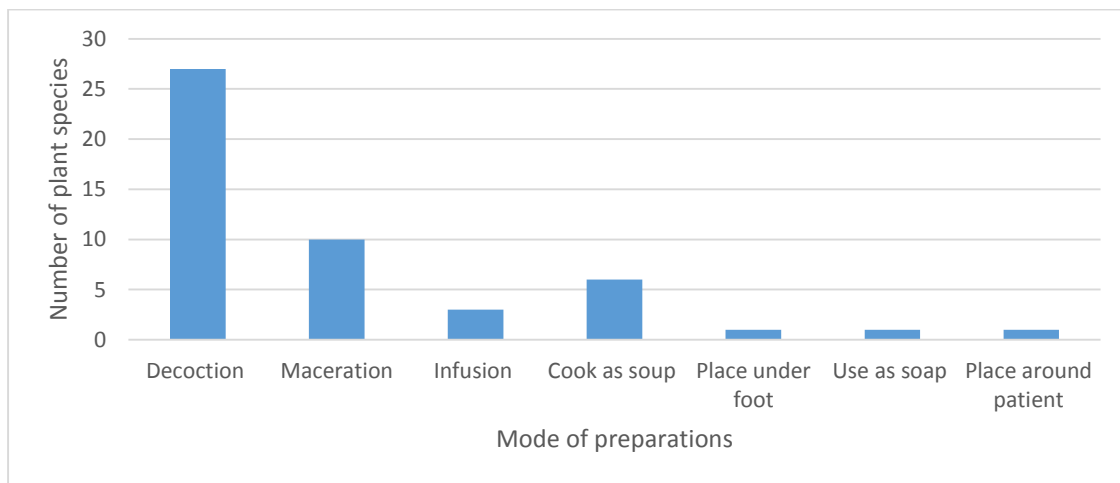


Figure 3: Number of plant species mentioned by the respondents under different modes of preparation

## Discussion

Believe in local herbs is one main characteristic of a wide population of people in Nigeria especially due to poor medical facilities, high poverty level and lack of access of the community people to modern medicine (Ozioma and Chinwe 2019). These have made many to find solace in cure of diseases through the use of plant parts in a traditional way. In search of cure for ailments for life threatening diseases such as Covid 19, the perception of the local people have to be put into consideration. Nigeria is one of the few countries in the world that have recorded low record of infections and death of Covid 19 in the world (Raimi *et al.*, 2022). This calls for studies that questions the perspective of the people in Nigeria regarding Covid 19 management and this should be merged with reasons behind low record of this pandemic spread in Nigeria. This study revealed that there are so many plant species that the indigenous people in Nigeria believed can be applied as herbal remedies for the deadly Covid 19 ailment (Table 1). And these taxa cut across various plant families.

The perception of the respondent in this study revealed that the part of the plant taxa that should be used is the leaves mainly through the process of decoction and maceration in mode of preparation (Figure 2, 3). Further studies recommended should find out why these mode of preparation might be effective in addressing Covid 19.

Some plant taxa encountered in this study has also been cited in literature to have potentials of curing Covid 19. These following plant taxa *Alium sativum*, *Azadirachta indica*, *Curcuma longa*, *Moringa oleifera*, *Psidium guajava*, *Zingiber officinale* cited by Adeleye *et al.* (2021) were encountered in this study. Also *Azadirachta indica*, *Vernonia amygdalina* cited by Lim *et al.* (2021) were encountered in this study. This study therefore buttress the fact that these plant taxa might possibly have potentials of curing Covid 19. Extensive studies on the phytochemistry of these taxa to examine these plant taxa of having the possibilities of curing Covid 19 is highly recommended.

## Conclusion

This study assessed human perception regarding the use of medicinal plants as traditional medicines in the cure and prevention of covid-19 in Nigeria. Human perception on the use of plants for the cure and prevention of covid-19 in Nigeria is based on their belief on the use of medicinal plants/herbs in traditional medicine. This study revealed that many people believed that plant species can be locally administered for cure and management of Covid-19 in Nigeria and many taxa are believed to have the potential of curing Covid 19 in Nigeria

## Recommendations

1. Phytochemical studies on all the plant species mentioned in this study is recommended to determine phytochemical constituents of these plants that can be processed to synthetic medicine.
2. There should a way that the world health organization will give opportunities for clinical trials for cure of Covid-19 through the use of plant materials.
3. In the process of clinical or local trials, the plant species that are encountered in this study should be given consideration.

## Acknowledgement

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