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**Application of Indigenous Plants for the Management of Menstruation Disorders in Orogun, Delta State, Nigeria**Erhenhi, A.H.<sup>1</sup>Delta State University, Abraka, Delta State, Nigeria<sup>1</sup>

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**Abstract**

Medicinal plants used for menstruation problem in Orogun town, Delta State were investigated. Some information on the indigenous uses of plants and local names obtained was provided by local indigenes of the community while the scientific information was obtained from relevant scientific literatures. Identification of the collected plant species was done *in situ*. A total of twenty (20) plant species were collected belonging to eighteen (17) families. The plant habits included a total of ten (10) herbs, five (5) shrubs, two (2) trees and three (3) climbers. It was evidenced from the medicinal uses that most of the plants are essential as they possess salient medicinal values in the treatment of irregular menstruation, painful menstruation, shortage of menstrual flow and black menstruation. The uses of these plants in the treatment of menstrual problems do not exclude the facts that some of the plants have multipurpose usage. While herbs were mostly used, the climbers were least used. The leaves were the most frequently used parts of the plants while the roots were least used. It is recommended that these plants of immense medicinal potentials should be conserved, cultivated or domesticated to protect them from over exploitation, hence reduce biodiversity loss or complete extinction.

**Key:** Habits, Medicinal plants, Menstruation, Orogun

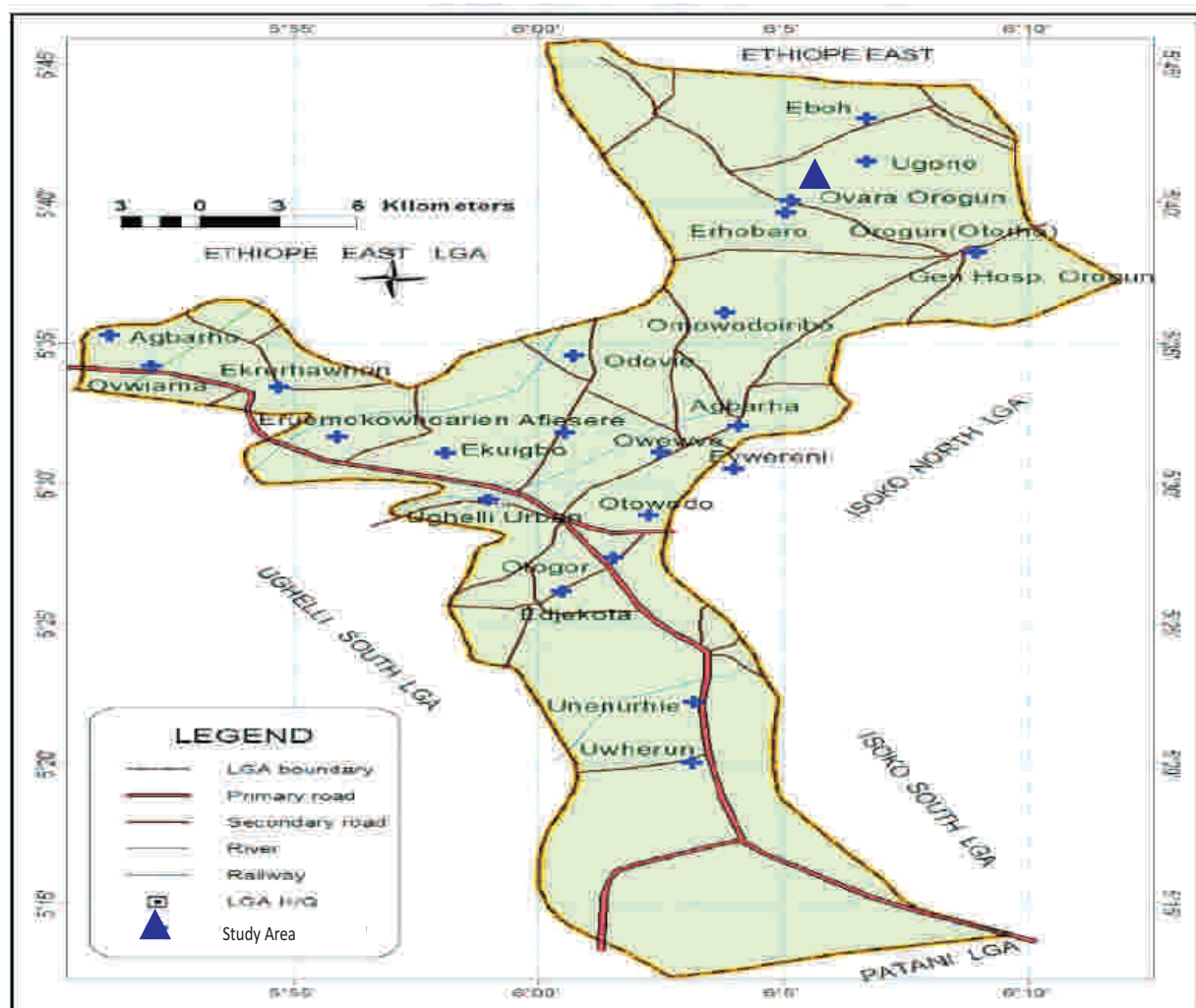
**Introduction**

Menstrual cycle varies in different women all over the world. While some experience mild pains, others have acute pains during the flow.

While some women experience heavy flow, the case may be different for others. menstrual problems or disorders are sometimes generally not perceived as major health issues or concerns, and therefore not considered in global reproductive health programs (Harlow and Campbell, 2000), despite the fact that research in various low-income countries reveals that menstrual morbidity has a huge impact on women's health status, quality of life, social integration and access to education (Daar and Merali, 2002; Harlow and Campbell, 2000; Caldwell and Caldwell, 1987).

There is simple evidence that increasing numbers of people across various parts of the world depend on traditional herbal remedies for their health care, the local uses of plants and products in health care are even much higher in particularly those areas with little or no access to modern health service, reported (Saeed and Arahad, 2004).

*Petroselinum crispum*, roots and seeds were used in the treatment menstrual colic because they have a relaxing effect on smooth muscle and an analgesic effect (Lorenzi, *et al.*, 2008). Ethnogaecology is emerging as a novel field which deals with the treatment of different menstrual problems among tribal women (Jain, 1991). Orogun is a town in Ughelli North Local Government Area of Delta State. Its coordinates are 05° 30'N and 005° 59'E. Vegetation structure is rainforest type. The people of Orogun are subsistent farmers, fishermen and traders.



**Figure 1. Map of Orogun town showing the study area**

Source: Agaja and Unueroh. (2012)

### Collection and Identification

Some of the plant species were collected in the wild, while few others were given by the locals because they cultivated them in their farms and small gardens close to their houses. The locals provided the local names of plant species in their dialects while the plant species were scientifically identified *in situ*. Fresh plant materials were taken to the laboratory of Department of Botany, Delta State University, Abraka for further screening. The plants collected were categorized according to their various families, scientific names, common

names, local names and their various life forms of trees, shrubs, climbers and herbs.

### Results

The results obtained from the medicinal survey of plant used by the people of Orogun town in Delta State revealed a total of twenty (20) plant species belonging to seventeen (17) families. These plants were specifically used for different menstrual ailments and were also prepared differently. The common plant parts used in the mode of preparation included: leaves, barks, fruits and in some cases roots.

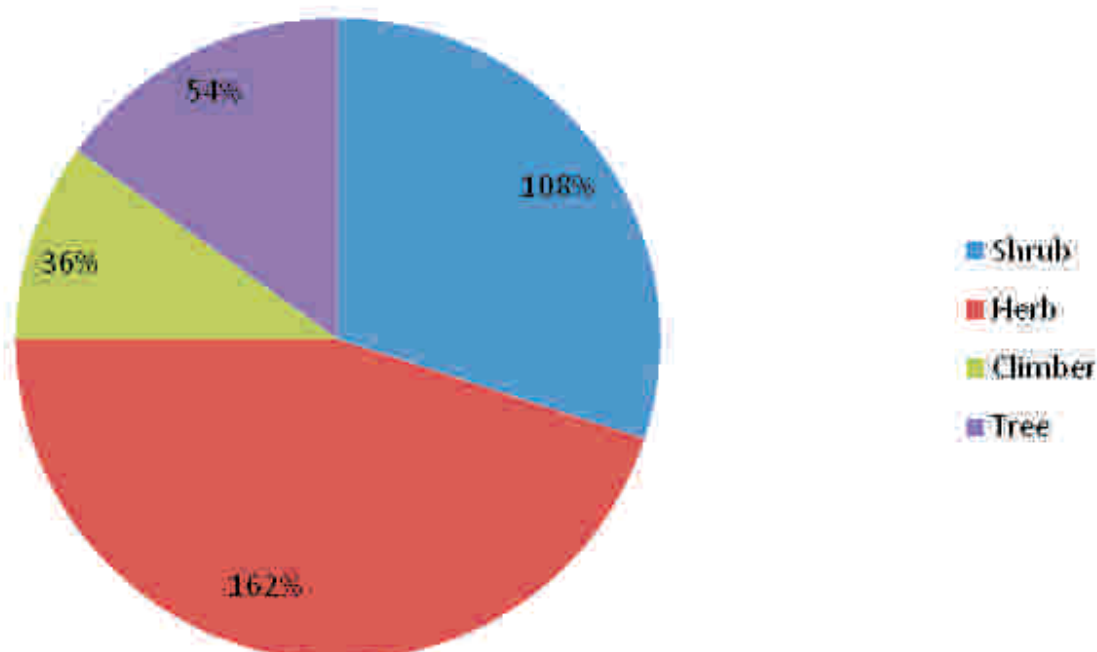
**Table 1. Scientific Names, Families and Common names of plants collected in Orogun, Delta State.**

S/N	Scientific names	Family	Common Names
1.	<i>Psidium guajacva L.</i>	Myrtaceae	Guava
2.	<i>Musa paradiaca L.</i>	Musaceae	Plantain
3.	<i>Amaranthus spinosus L.</i>	Amaranthaceae	Thorny green amaranth
4.	<i>Momordica charantia Linn.</i>	Cucurbitaceae	Bitter gourd
5.	<i>Citrus aurantifolia (christism)</i>	Rutaceae	Lime
6.	<i>Hyphs suaveolens (L.) poit</i>	Habiatae	Hyptis
7.	<i>Scleria depressa C.B. Clarke</i>	Cyperaceae	Sword grass.
8.	<i>Corchorus olitorious L.</i>	Tiliaceae	Jute
9.	<i>Phyllanthus amarus shum and Thonn</i>	Euphorbiaceae	Amarus plant
10.	<i>Bryophyllum pinnatum (Lam)</i>	Crassulaceae	Resurrection plant
11.	<i>Gossypium barbadense Linn.</i>	Maluaceae	Cotton plant
12.	<i>Ananas Comosus (Linn.) Merill</i>	Bromelucese	Pineapple
13.	<i>Senna alata</i>	Leguminosae	Candlestick
14.	<i>Pergularva daemia (forssk.) chiov</i>	Asclepiadaceae	Pergularia
15.	<i>Tatropa curcas</i>	Euphorbiaceae	Physic nut.
16.	<i>Ricinus communis L.</i>	Euphorbiaceae	Castor plant
17.	<i>allum sativum L.</i>	Liliaceae	Garlic
18.	<i>Anthodeista djalonensis A. chev.</i>	Loganiaceae	Cabbage tree
19.	<i>Piper guineense shum and thonn.</i>	Piperaceae	Black pepper
20	<i>Citrusllus lanatus (thumb) Matsum and Nakai</i>	Cucurbitaceae	Water melon

The use of scientific names, plant families, and common plant names aided the ease of identification of the right plant species since each plant species collected in Orogun of Delta State has specific function as regards its mode of preparation and administration. This also helped to document these plants and their medicinal useful formally (Table 1).

**Table 2. Scientific Names, Plant habits of plant species collected in Orogun, Delta State.**

S/N	Scientific Names	Common Names	Plant Habits
1.	<i>Psidium guajacva</i> L.	Guava	Tree
2.	<i>Musa paradiaea</i> L.	Plantain	Giant herb
3.	<i>Amaranthus spinosus</i> L.	Thorny green amaranth	Herb
4.	<i>Momordica charantia</i> Linn.	Bitter gourd	Climber
5.	<i>Citrus aurantifolia</i> (christism)	Lime	Shrub
6.	<i>Hyphs suaveolens</i> (L.) poit	Hyptis	Herb
7.	<i>Scleria depressa</i> C.B. Clarke	Sword grass	Herb
8.	<i>Corchorus oltorious</i> L.	Jute	Herb
9.	<i>Phyllanthus amarus</i> schum and Thonn	Amarus plant	Herb
10.	<i>Bryophyllum pinnatum</i> (Lam)	Resurrection plant	Herb
11.	<i>Gossypium barbadense</i> Linn.	Cotton plant	Shrub
12.	<i>Ananas comosus</i> (Linn.) Merill	Pineapple	Shrub
13.	<i>Senna alata</i>	Candle stick	Herb
14.	<i>Pergularva daemia</i> (forssk.) chiov	Pergularia	Herb
15.	<i>Jatropha curcas</i> L.	Physic nut	Shrub
16.	<i>Ricinus communis</i> L.	Castor plant	Shrub
17.	<i>Allum sativum</i> L.	Garlic	Herb
18.	<i>Anthodeista djalonensis</i> A. chev.	-	Tree
19.	<i>Piper guineense</i> shum and thonn.	Climbing black pepper	Climber
20.	<i>Citrusllus lanatus</i> (thumb) matsum and Nakai	Water melon	Climber



**Table 3. The Scientific Names, Local/Nature Names and Type of Menstrual Problems**

The percentage of habits/ life forms of medicinal plants used by people of Orogun Delta State for treatment of menstrual problem showed that herb had the highest percentage usage, followed shrubs while tree species were least used. Some of the herbaceous plant species were annuals; hence the reason for the ready availability for usage as compared to trees that will take a longer duration to establish (Fig 1).

**Table 3. The Scientific Names, Local/Nature Names and Type of Menstrual Problems**

S/N	Scientific names	Local/native name	Type of menstrual problems
1.	<i>Psidium guajacva L.</i>	Igava	Irregular menstruation
2.	<i>Musa paradiaca L.</i>		Menstruation during pregnancy
3.	<i>Amaranthus spinosus L.</i>	Eteta	Excess menstruation
4.	<i>Momordica charantia Linn.</i>	Ujiwu	Excess menstrual flow and black menstruation
5.	<i>Citrus aurantifolia (christism)</i>	Utiengaga	Menstrual pain
6.	<i>Hyphs suaveolens (L.) poit</i>	Ayeowa	Menstruation during pregnancy.
7.	<i>Scleria depressa C.B. Clarke</i>	-	Irregular menstruation
8.	<i>Corchorus olitorious L.</i>	-	Irregular menstrual flow
9.	<i>Phyllanthus amarus shum and Thonn</i>	Obukoyeke	Menstrual pain
10.	<i>Bryophyllum pinnatum (Lam)</i>	Ebeokponkpan	Excess menstrual flow
11.	<i>Gosspypium barbadense Linn.</i>	Ebaororu	Shortage of menstrual flow
12.	<i>Ananas Comosus (Linn.) Merrill</i>	Ilalaja	Shortage of menstrual flow.
13.	<i>Senna alata</i>	-	Black menstruation
14.	<i>Pergularia daemia</i>	Omoluku	Irregular painful menstruation
15.	<i>Tatropa curcas</i>	Ishakpa	Excessive menstrual flow
16.	<i>Ricinus communis L.</i>	-	Shortage of menstrual flow
17.	<i>allum sativum L.</i>	Ututa	Irregular menstruation
18.	<i>Anthodeista djalonsensis A. chev.</i>	Ewgbo	Menstruation during pregnancy
19.	<i>Piper guineense shum and thonn.</i>	Eshasha	Menstrual pain
20.	<i>Citrusllus lanatus (thumb) Matsum and Nakai</i>	Eto ame	Control excess menstrual flow



The documentation of medicinal plant species by the people of Orogun, Delta state using their local dialects has helped the people used the plant species for the specific type of menstrual problem. The menstrual problems included excess menstrual flow, menstrual pain, menstruation during pregnancy, irregular menstruation, irregular painful menstruation, black menstruation, and shortage of menstrual flow (Table 3).

**Table 4. The Scientific names, Common names, Parts used and Mode of preparation of the plants collected in Orogun town, Delta State.**

S/N	Scientific names	Common names	Parts used	Mode of preparation
1.	<i>Psidium guajava</i> L.	Guava	Leaves & bark	The leaves and bark are boiled with water and a glass of cup to be taken daily.
2.	<i>Musa paradisiaca</i> L.	Plantain	Leaves	The young sucker leaves to be used with black pepper boiled and drink for 7 days only.
3.	<i>Amaranthus spinosus</i> L.	Thorny green amaranth	Whole plant	The whole plant boiled with water and drink.
4.	<i>Momordica charantia</i> Linn.	Bitter gourd	Leaves	Wash the leaves and drink and also eat with alligator pepper to stop excessive menstrual flow or black menstruation
5.	<i>Citrus aurantifolia</i> (christism)	Lime	Fruit and root	Squeeze fruit juice to be taken and roots cut into pieces wash and put in water or soft drink to be taken daily in morning to control menstrual pain.
6.	<i>Hyphs suaveolens</i> (L.) poit	Hyptis	Leaves	The leaves should be pound and juice should be taken for menstruation during pregnancy
7.	<i>Scleria depressa</i> C.B. Clarke	Sword grass.	Whole part	The whole part squeeze with water
8.	<i>Corchorus olitorious</i> L.	Jute	Leaves	Leaves should be pounded with rubber leaves and mix with water then filter to be taken for irregular menstrual flow.
9.	<i>Phyllanthus amarus</i> Schum and Thonn	Amarus plant	Whole plant	The whole plant part pounded with black pepper to be taken for menstrual pain
10.	<i>Bryophyllum pinnatum</i> (Lam)	Resurrection plant	Leaves	The leaves of <i>Bryophyllum pinnatum</i> mix with native egg and oil as soup to stop excessive menstruation.

11.	<i>Gossypium barbadense</i> Linn.	Cotton plant	Leaves	The leaves are blend ed with Morinda lucida root together. Taken either hot pap every one month to correct shortage of menstrual flow.
12.	<i>Ananas Comosus</i> (Linn.) Merrill	Pineapple	Fruit	The fruit juice of pineapple with lime and h oney mix together to correct shortage of menstrual flow.
13.	<i>Senna alata</i>		Leaves	Crushed the young leave mix with little water to be taken
14.	<i>Pergularia daemia</i>	Pergularia	Leaves	Crushed the young leave mix with little water to be taken.
15.	<i>Jatropha curcas</i>	Physic nuts.	Leaves	The leaves are squeeze d and extract of leaf juice of Jatropha curcas. It is taken once daily to treat excessive menstrual flow.
16.	<i>Ricinus communis</i> L.	Castor plant	Leaves	The leaves should be washed thoroughly and the juice should be taken to stop menstruation in pregnancy. It should be taken in the first 2 weeks
17.	<i>Allum sativum</i> L.	Garlic	Fruit	Eating of <i>Allum sativum</i> or used in preparation of pepper soup to be taken to control menstrual problem and stop to be taken to control menstrual pro blem and stop irregular menstruation.
18.	<i>Anthodeista djalonenis</i> A. chev.	Cabbage tree	Bark	The bark of cabbage tree to be boiled properly and to be seated on to stop menstruation during pregnancy
19.	<i>Piper guineense</i> Shum and Thonn.	Black pepper	Fruit	The black pepper and young sucker leaves of plantain used with boiled and drink for 7 days only.
20.	<i>Citrusllus lanatus</i> (Thumb) Matsum and Nakai	Water melon	Fruit	The fruit of water melon to be eating to control and stop excessive menstrual flow.

The different methods of preparation and administration of the medicinal plants differ from one plant species to another. Their mode of preparation included the boiling of the leaves and bark with water, washing the leaves thoroughly and drinking orally, mixed solution or concoction using other plant parts in combination, crushed young leaves mixed with little water to be taken. In some cases, women who are allergic to alcohol may have used water for the mixture in place of ethanol (table 4).

### Discussion

The use of plant species for menstrual problems is of great importance to the people of Orogun town in Delta State. This study showed that majority of people still use traditional medicine at one point or the other and they still largely depend upon different array of plants found in the area. *Citrus aurantifolia* Squeezed fruit juice and roots cut into pieces, washed and put in water or soft drink to be taken daily in morning to control menstrual pain. Similarly, in Oyo state some medicinal plant species like *Citrus aurantifolia*, *Ananas comosus* fruit juice were also reported to be used to correct shortage of menstrual flow defect. *Momordica charantia* washed leaves and drank as solution, and also eaten with alligator pepper to stop excessive menstrual flow or black menstruation. Previous report (Borokini *et al.*, 2013) indicated that *Momordica charantia* is used to treat black blood menstrual discharge.

Bark of *Piper guineense* or cabbage tree was boiled properly and to be seated on to stop menstruation during pregnancy (Tinde *et al.*, 2014) reported similar use of medicinal plant species for the treatment of menstrual problems during pregnancy using different informants and asked their informants whether these plants also induce menstruation and whether they are considered safe to be taken during pregnancy (Abioye-Kuyeti, 2000) reported menstrual problems in about 87% of school girls in Nigeria, 187 (53.1%) had menarche (beginning of the menstrual period) of a total of 352 randomly selected healthy Nigerian school girls on urban area, but 40% of those were deficient on their knowledge of menstruation. The study reported the commonest reported menstrual problem as dysmenorrhea (40.7%) (Painful menstruation) followed by irregular menstruation (2.3%) (Singh *et al.*, 1997).

The availability and affordability of these medicinal plant species to the people of Orogun

had help as alternative sources of treatments which have produced positive impacts. There were reports that modern oral contraceptives can cause symptoms believed to be similar to fertility loss, like amenorrhea or mid-cycle breakthrough bleeding. For this reason, many women in Asia, Africa and Latin America continue to prefer traditional medicine for menstrual disorders or family planning (Williamson *et al.*, 2009; Bearinger *et al.*, 2007; Castle, 2003; Levin, 2001). The findings of the present work were compared with some previously published studies on traditional medicine in Western Nigeria (Borokini *et al.*, 2013) and it was apparent that some of the plants, plant parts used and purposes of use cut across other cultures not only in Nigeria but other parts of the world with similar cultural and socio-economic background.

### Conclusion

The present study on medicinal plant used for menstruation problems by Orogun people of Delta State revealed that the use of medicinal plants by the people had been a long-aged practice which had been applied from generations to generations through folklores, local dialects and indigenous applications. It is suggested that sustainable conservation and strategies be put in place by government, as well as fund researches on these plants of immense medicinal potentials to boost healthcare delivery both in rural and urban areas in Nigeria using Orogun as a pilot scheme.

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