

# Evaluation of Various Uses of *Aloe barbandensis miller* (L) Burm (Aloe Vera Plant) by Rural Dwellers In Ile-Ogbo, Ayedire Local Government, Osun State.

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## Abstract

The study investigated the evaluation of various uses of *Aloe barbandensis miller* (L) Burm by rural dwellers in Ile-Ogbo, Ayedire Local Government, Osun State. A multistage sampling technique was employed to sample 60 respondents. Data were obtained with the aid of structured questionnaire. The data were subjected to descriptive (percentages and frequency) and inferential, chi-Square, statistics. The findings revealed that majority of the people who made use of *Aloe barbandensis miller* (L) Burm were female (65%) while male were (35%). Also, 35% of respondents were between ages of 30 - 39 years with majority (65%) of the respondents married while 47% of the respondents had primary school certificate. The study further shows that the awareness of Aloe was very high in the study area. The findings revealed that *Aloe barbandensis miller* (L) Burm is used for treating convulsion, malaria, burns, inflammation, pimple, eczema and skin rash in the agrarian community. It is therefore recommended that the plant should be planted by every household for easy accessibility. The establishment of aloe vera industries should be encouraged so that the people can benefit by supplying the raw materials which will serve as sources of income for the rural people.

**Keywords:** Evaluation, Aloe Vera plant, Awareness, Rural dwellers, Uses.

## Introduction

Aloe Vera (*aloe barbadensis miller*) is a species of aloe plant which is considered to be out of Liliaceae and Aloeaceae family (Dehdari *et al.*, 2006). It has two scientific names due to confusion regarding its origin (Ombrello, 2009). According to Wikes University, the name *barbadensis*, does not describe the plant well because it does not come from Barbados, instead, most people believe its originates in North Africa or Mediterranean (Ombrello, 2009). Most botanists agree that historical evidence suggests that Aloe Vera plant originates in the warm, dry, climate of Africa (Jones, 2000). It is also grown in other sub-tropical and tropical locations including South America and Caribbean (Odus, 1989). The origin of Aloe Vera in Nigeria dated back to the 15th century, during the slave trade era, when the Europeans shipped it into West Africa before heading to West Indies in 16th

century (Davidson *et al.*, 1977). Aloe Vera has been known in Nigeria to be a medicinal plant to aid cold sores, constipation, ulcers, osteoarthritis, epilepsy, bleeding, frost bite, varicose, sun burn, burn, wound healing among others. (Foster *et al.*, 2007).

Furthermore, Aloe Vera plant is known to be widely used in modern herbal practice. Aloe Vera is one of the most-studied and valuable plants worldwide which made it to have varieties of names such as lily of the desert, miracle plant, healing plant, fountain of youth and the medicine plant with qualities to serve as alternate medicine (Radha & Laxmipriya, 2015). Aloe Vera has a long history of healing power. Generally, it is medicinally used for cancer, miscellany, skin, stimulant, stomachic, tonic and vulnerary. It has ability to heal various ailments such as hair loss, pain, dermatitis, headache, insect bites and stings, viral infection, gum sore, high blood pressure, arthritis, acnes, genital herpes, warts, rheumatism to mention a few (Heber, 2007). Traditionally, Aloe Vera is a medicinal plant which is also used extensively in treating urine related problem and other ailments mentioned earlier (Radha & Laxmipriya, 2015). Barcoft and Myskja,( 2003) reported that Aloe Vera potential has not being exploited in Africa like it had been in the advanced part of the world where it has served as an ornamental plant, cure for various ailments, skin treatment and a source of raw materials for cosmetic and pharmaceutical industries. Aloe Vera, despite being identified as a new plant resource with the most promising prospect, it remains a plant that its importance has not been fully recognized in agrarian area of Nigeria. Hence, the ultimate economic result of it awareness and promotion will positively affect the health and economy of the people. The general objective of the study is to evaluation of various uses of *Aloe barban--densis miller* (L) Burm (Aloe Vera Plant) by rural dwellers In Ile-Ogbo, Ayedire Local Government, Osun State. Specific objectives are to determine the socio-economic characteristics of the respondents, to ascertain the awareness of the plants and identify various uses of Aloe Vera in the study area.

## **Methodology**

Multi-stage sampling techniques was used in carrying out the study. First stage involved purposively sampling technique of selecting Ayedire Local Government out of the 30 Local Governments of Osun State being rural and high presence of Aloe Vera plants users in the town. At the second stage, random sampling was used to select one town out of the three principal towns which are Kuta, Oluponna and Ile-Ogbo in the Local Government Area. The selected principal town was Ile-Ogbo. It was selected due to high sample size (larger population). Third stage involved purposive selection of Ile-Ogbo Ward I due to available records of the villages in the ward. Fourth stage involved the systematic random selection of two villages in the ward. The villages were selected because most of the other villages have very small population. Finally at the fifth stage, quota sampling of 20% was used to select 20 households from 101 households in Amuludun village and 40 households from 199 households in Ile-Baale to give a total of 60 respondents.

## **Results and discussion**

The table 1 revealed that majority of the respondents (65%) in the study area that utilize *Aloe barbandensis miller* (L) Burm were female while 35% were male. This is in conformity with (Davies *et al*, 1989) that females (Egyptian Queens) have been using aloe vera for beauty and as skin moisturizer since 1500 BC. It is further revealed that 35% of the respondents were within 30-39 years, 31.7% within 20-29 years, 20% falls between 40 and 49 years, while 6.7% were below 20 years and 50 years. This implied that people who made use of aloe vera plant were at their active and marriageable age. The result also revealed that the majority (65%) of the respondents were married, 31.7% were single while 3.3% were divorced. This implies that married people tend to make use of more than other marital status. Majority (45 %) of the respondents had primary education, 36.7% of the respondents had secondary education and 13.3% had tertiary education while only few 5% of the respondents had no formal education. This low educational level could be attributed to the rurality of the study area

**Table 1 Socio-Economic Characteristics of Respondent**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	21	35
Female	39	65
Total	60	100
<b>Age ( Years)</b>		
<20	4	6.7
20-29	19	31.7
30-39	21	35
40-49	12	20
50 and above	4	6.7
Total	60	100
<b>Marital status</b>		
Single	19	31.7
Married	39	65
Divorced	2	3.3
Total	60	100
<b>Educational background</b>		
No formal education	3	5
Primary education	27	45
Secondary education	22	36.7
Tertiary education	8	13.3
Total	60	100

Source: Field Survey, 2018

Table 2 showed that all the respondents in the study area knew of *Aloe barbandensis miller* (L) Burm. 53.3% respondents knew the plants through tradition, 28.3% through mass media, 10% through herbs sellers, 6.7% through extension agents while only 1.7% through a friend. This showed that aloe Vera plant was handed-down to the present generation of the respondents by their fore-fathers. Majority of the respondent (36.7%) had known aloe vera for over 16 years,(35%) knew it for 6 to 10 years ago,

(16.7% from) 1 to 5 years, and (1.7% have been aware of the plant for) 11 to 15years This is in accordance with International Aloe Science Council (IASC, 2002) that aloe vera plant has been known by our fore-fathers since 18th and 19th century, who handed it to their children. 48.3% of the respondent agreed that *Aloe Vera* is found mostly in the house, (41.7%), backyard (8.3%) hospital and house while 1.7% mentioned hospital. This corresponds with Jon VanZile 2013 that many people keep the plant in the house to use the juice as first-aid. It also showed that the use of *Aloe Vera* is widely known in the study area because 95% of the respondent knew it uses and few respondent of 5% did not know it uses.

**TABLE 2: Distribution of awareness of Aloe Vera plant by respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Do you know aloe vera plant</b>		
Yes	60	100
<b>Sources of information</b>		
Through herbs sellers	6	10
Through tradition	32	53.3
Mass media		28.3
Extension agent	4	6.7
Friend	1	1.7
Total	60	100
<b>How long have you known aloe vera</b>		
1-5 years	10	16.7
6-10 years	21	35
11-15years	7	11.7
16 years above	22	36.7
Total	60	100
<b>Where it found mostly</b>		
Backyard	25	41.7
House	29	48.3
Hospital	1	1.7
Hospital and house	5	8.3
Total	60	100
<b>Are you aware of it uses</b>		
Yes	57	95
No	3	5
Total	60	100

Source: Field Survey, 2018

Also, the table 3 below revealed that *Aloe barbandensis miller* (L) Burm is commonly used for healing, beautification, treatment of burns, scalds, sun-burn, wounds, swelling, pains, itching and inflammation etc. It was revealed that most (45%) of the respondents had no idea if aloe vera is used for digestive disorder, but considerable number of respondents (26%) agreed, (20.0%) strongly agreed while few respondents of (8.3%) disagreed with the statement. It also revealed that 40.0% of respondents agreed to the use of plant for curing swelling, pains, itching and inflammation while 36.7% strongly agreed with the statement. 16.7% of respondents are not sure of this and 6.7% disagreed with the statement. Also, from the table, 45.0% of the respondent strongly

agreed to the use of this plant for treatment of scalds, burns, sun burn and wounds, 25.0% agreed with the statement, 23.3% of the respondents were undecided, 5.0% disagreed while 1.7% strongly agreed with the statement.

Furthermore it was revealed from the findings that 16.7% strongly agreed that it is used for hypertension, 15.0% agreed with the statement 13.3% disagreed while 3.3% strongly disagreed. Also, 28.3% of the respondent strongly agreed that the plant is used for curing diabetes, 25.0% agreed with the statement , 8.3% disagreed while 3.3% strongly disagreed that Aloe Vera can be used to cure diabetes . For cancer prevention, 26.7% respondent strongly disagreed that aloe vera can be effective in curing cancer, 16.7% agreed, 10.0% disagreed while 1.7% strongly disagreed. Also, 45.0% are not certain on the use of aloe vera plant for rejuvenation and anti-aging purposes, 23.3% agreed to the statement, 18.3% strongly agreed, 11.7% disagreed while 1.7% strongly disagreed of using it for anti-aging purposes. 58.3% respondents strongly agreed that aloe vera is an ornamental plant, while just 3.3% disagreed with the statement. Also, majority (73.3%) of the respondent strongly agreed that *Aloe* plant has moisturizing properties and healing power, 18.3% agreed, 6.% are not sure while 1.7% disagreed.

In summary, it showed that to some extent Aloe Vera is used for cancer prevention, anti-aging and rejuvenation solves digestive problems, hypertension and diabetes. This is in line with Mossini *et al.*, (2004), who reported that *Aloe barbandensis miller* (L) Burm was used to treat diseases relating to all skin infections wounds and lots more.

**Table 3: Various uses of aloe vera plant by the respondent**

Variables	SA	A	U	D	SD
Used for digestive problem (ulcer, constipation, poor appetite)	12(20.0%)	16(26.6%)	27(45.0%)	5(8.3%)	0(0.0%)
Used for swelling, pains, itching, inflammation etc.	22(36.7%)	24 (40.0%)	10 (16.7%)	4 (6.7%)	0 (0.0%)
Treatment for burns, scalds, sun burn and wounds.	27(45.0%)	15 (25.0%)	14 (23.3%)	3 (5.0%)	1 (1.7%)
Used for hypertension	10(16.7%)	9 (15.0%)	31 (51.7%)	8 (13.3%)	2 (3.3%)
Used for diabetes.	17(28.3%)	15 (25.0%)	21 (35.0%)	5 (8.3%)	2 (3:3%)
Cancer prevention.	16(26.7%)	16 (26.7%)	27 (45.0%)	6 (10.0%)	1 (1.7%)
Prevents anti-aging, acne and has rejuvenating properties.	11(18.3%)	14 (23.3%)	27 (45.0%)	7 (11.7%)	1 (1.7%)
Beautification of environment.	35(58.3%)	18 (30.0%)	5 (8.3%)	2 (3.3%)	0 (0.0%)
Has healing and moisturizing properties.	44(73.3%)	11 (18.3%)	4 (6.7%)	1 (1.7%)	0 (0.0%)

Source: Field Survey, 2018.

SA- Strongly Agree; A- Agreed, U- Undecided, D-Disagreed and SD- Strongly Disagreed

**Chi-Square Results Showing the Relationship between Socio-economic Characteristics of Respondents and the various Uses of Aloe Vera Plant**

Table 4 shows that there is a significant relationship between respondents’ age ( $r = -0.172$ ), Education( $r=0.102$ ) and various uses of Aloe Vera Plants. This implies that both age and education has influence on various uses of Aloe Vera. The older the respondents the more experience they tend to have on the use of Aloe Vera while education also improved their knowledge on the use of the plant.

**Table 4: Distribution based on the relationship between age, education and the various uses of Aloe Vera plant**

Variable	R	P
Age	-0.154	0.002
Education	0.201	0.000

Source: Field Survey, 2018

**Conclusion and recommendations**

From the result of the study, it is concluded that aloe vera plant has been useful in curing few ailments but limited to pains, inflammation, pimples, eczema, rashes, treatment of burns and wounds, healing, moisturizing and generally beautification in the study area. It was also found that females utilized aloe vera plant than males in the study area. Also majority of the respondents were aware of the uses of Aloe Vera and got information on the uses through tradition, the information are passed to the respondents from one generation to another. Lastly it was discovered that majority of the respondents planted Aloe Vera around their houses which makes it to be accessible whenever they need the plant for any purposes

Since rural dwellers rely almost on herbal medicine for their health needs, it is advisable that planting of *Aloe barbandensis miller* (L) Burm plant by each household should be encouraged so that it can be easily fetched when required. .Also, since in the advanced or developed countries, aloe Vera is now a common ingredient in cosmetics, food and pharmaceuticals industries, this should also be encouraged in rural communities even Nigeria at large

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