

Factors Affecting the Use of Traditional Medicine Among Farmers in Osun State, Nigeria

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Abstract—The study accessed the factors affecting the use of traditional medicine among farmers in Osun State Nigeria. To achieve the study objectives, 3-stage sampling technique was used to randomly select 147 respondents for the study. Data were collected using questionnaire, complimented with interview schedules, and analyzed using descriptive statistics and Probit regression model. Based on the findings of the research, it was discovered that farming was a male dominated enterprise (62.6%), with 87.8% of them been married and having a mean age of 34 years. Also, mean household size was 7 with 51.0% of them not having formal education. The result further shows that mean extension visit was 2, while family/friends and radio programmes were the leading sources of information among farmers on traditional medicine to use. The farmers also reported that traditional medicines were more affordable than the orthodox medicine while the most preferred reason for using traditional medicine among farmers, is its effectiveness in treating ailment and lack of time to see physician. More so, farmers prefer traditional medicine because it is sourced from nature which makes it safe for the body while malaria and cough were the leading ailment which farmers in Osun State use traditional medicine to cure. Results from the Probit regression model shows that level of education, relative advantage of traditional medicine, household size, knowledge level on traditional medicine, level of cosmopolitan, perception on traditional medicine and access to extension services were all positively significant at different levels of significance. The study therefore recommends that traditional healers and farmers should undergo training and re-training on the use of traditional medicine on how to better prescribe the necessary dosage per time since they agreed that it is more user friendly and affordable.

Keywords— Farmers, Traditional medicine, Information, Perception and Ailment.

I. INTRODUCTION

The World Health Organization (WHO, 1976) outline Traditional medication as the sum complete of all understanding and practices, whether or not explicable or now not used in analysis prevention and removal of physical, intellectual or social imbalance and relying completely on sensible journey and commentary surpassed down from technology to technology whether or not verbally or in writing. With these description, more than a few varieties of drug treatments and healing procedures such as natural medicines, massage, homeopathy, mud bath, song therapy, wax bath, reflexology, dance therapy, self-exercise therapies, radiation and vibration, osteopathy, chiropractic aromatherapy, preventive medicine, radiant warmth remedy and so on are a few factors of regular medication. Traditional medicine is said to be the oldest form of health care in the world and is used in the prevention, and treatment of physical and psychological illnesses. According to fossil histories, the human use of plants/herbs as remedies may be traced back to at least 60,000 years ago (Shi *et al.*, 2010; Fabricant *et al.* Haidan *et al.*, 2016). Over the years, different societies have consistently developed and identified various healing methods to combat a various health-and life-threatening ailments (Adullahi, 2011). Furthermore, considering its unique organic variety and original mechanisms of action towards treating ailment, traditional medicine has continued to play an important role in the formulation of modern drugs and research activities. Over the years, herbs that are used as traditional medicine have undergone series and meaningful developments in their ability to interact with numerous, varied biological targets, and some have become the

most important drugs in health care system (Haidan *et al.*, 2016; Zhu *et al.*, 2012). The World Health Organization reported in 2012 that a large number of people in the world depends on traditional medicine to cater for their health needs. More so, research has shown that 80% of Africa population still make use of traditional medicine either alone or in conjunction with conventional medicine (Boakye *et al.*, 2015). Traditional medicine according to Oliver (2013) is at the verge of vanishing due to the occurrence of conventional medicine.

In most part of Africa and Nigeria, in particular, there exist a believe that hunters are the original founder of herbs which have over the years been used as traditional medicine because of their huge knowledge about animals and plant. The hunters were believed to have observed in the villages where, for instance, a domestic animal eat the leaf of a specific plant when the animal was ill and recovered later or when another animal accidentally chewed a leaf and died (Evans, 2002; Sofowora, 2008; Egharevb *et al.*, 2015). Furthermore, Nigeria with its size, high population, diverse culture and traditions is believed to be rich in traditional medicine and can train eminent, knowledgeable and respectful traditional healers to take care of the teeming population. The demand for and use of traditional medicine in Nigeria has been on steady increase as shown by the sudden increase in herbal products availability in markets, shops, healing centers, motor parks, stores, hawkers and clinics in recent times. This might be attributed to some perceived benefit derived by the consumers of these product which rangers from issues of availability, accessibility and affordability, preference for more natural lifestyle, and belief in the safety and effectiveness of these products, some of which have been scientifically proven (Egharevb *et al.*, 2015). It is quite

encouraging that the Government of Nigeria at all levels have enacted laws that will help in testing regulating and manufacturing of traditional medicines in other to safe guide the consumers as well as encourage the producers. The specific objectives of the study are to: describes the socio-economic characteristics of the farmers in Osun State, identify information source of traditional medicine among farmers in Osun State, describes reasons for preference to traditional medicine among farmers in Osun State, identify perception of farmers in the use of traditional medicine in Osun State, identify the common ailment which herbs are used for among farmers in Osun State and determine factors affecting the use of traditional medicine among respondents in Osun State.

II. METHODOLOGY

The study was conducted in some selected Local Government Areas of Osun State, Nigeria. Osun State was produced in 1991 from the eastern 3rd of Oyo state. The predominant crops grown include Cocoa, Oil Palm, Kolanut, Plantain, Bananas, Cashew, Citrus and Timber, Rice, Yam, Cassava, Maize and Cowpea (Nigeria Population Commission, 2006; Theophilus, 2020). A 3-stage sampling method was used for this study. Firstly, two agricultural zones were randomly selected out of the three agricultural zones in the State Secondly, two local government were randomly selected from each of the two zones making a total of four local governments. In the third stage, three villages were randomly selected from each of the four local governments making a total of twelve villages. The sample size was drawn from the total sample frame as obtained from Osun State Agricultural Development Programme (OSSADEP). Using Yamane formular Thus, a total of 147 registered farmers were randomly selected as respondents for this study as used by Jibrin *et al.* (2019) and presented in Table 1.

TABLE 1. Distribution of Farmer in Osun State

Zone	Selected Local Government Areas	Selected Village	Sample frame	Sample size
I	Osogbo	Aiyetoro	45	12
		Ota-efun	38	11
		Awontunbi	40	11
	Iwo	Alapo	56	16
		Akande	41	11
II	Ife- East	Olupo	40	11
		Adara	40	11
		Adesina	41	11
	Olorunda	Oguro	35	10
		Oba-oke	43	12
		Oba-ife	65	18
		Okeogoro	46	13
Total		530	147	

Source: Osun State Agricultural Development Project, 2020

Model Specification

Descriptive statistics was used to achieve objective one (i), two (ii), three (iii) four (iv) and five (v) while Probit regression was used to achieve objective six (vi). Probit regression model was used to analyze the factors affecting the use of traditional medicine among respondents in Osun State. The model is specified as: Where; Y = Attitude (Agreed = 1, Disagreed = 0) X_1 = Age (years) X_2 = Sex (Male=1, Otherwise=0) X_3 = Household size (number)

X_4 = Level of education (years) X_5 = Marital status (Married =1, Otherwise=0)

X_6 = Perception on traditional medicine (Agreed = 1, Disagreed = 0) X_7 = Access to extension services (number) X_8 = Farm experience (years) X_9 = Annual income (NGN)

X_{10} = Compatibility of traditional medicine to human body system (highly compatible=1, Not compatible= 0) X_{11} = Source of traditional medicine (self=1. Otherwise=0)

X_{12} = Relative advantage of tradition medicine (High =1, Low=0) X_{13} = Complexity in mixing traditional med (Highly complex=1, Not complex=1) X_{14} = Knowledge level on trad medicine (High=1, Low=0) X_{15} = Level of cosmopolitan (High=1, Low=0) X_{16} = Distance to source of trad med (KM)

III. RESULT AND DISCUSSION

Table 2 reveals that the mean age of farmers was 34years which implies that young farmers are involved in agricultural activities for sustained food production and to better their standard of living.

TABLE 2. Socio-Economic Characteristics of the farmers in Osun State

Variables	Freq (%)	Mean
Age (Years)		
20 years and below	11(7.5)	34.00
21 – 30	33(22.4)	
31 – 40	70 (47.6)	
41 – 50	31(21.1)	
51 years and above	2(1.4)	
Sex		
Male	92(62.6)	
Female	55(37.4)	
Marital status		
Married	129 (87.8)	
Singe	12(8.2)	
Divorced	3(2.0)	
Widow	3(2.0)	
Household Size		
1 – 5	72 (48.9)	7.00
6 – 10	61 (41.5)	
11 – 15	14(9.5)	
Level of education		
No formal education	75(51.0)	
Primary	22(14.9)	
Secondary	40(27.2)	
Tertiary	10(6.8)	
Farm size (Ha)		
Less than 1ha	29(19.7)	
1 -2 ha	94(63.9)	
Above 2ha	24(16.3)	
Farming experience		
1-10	76 (51.7)	20.00
11-20	50(34.0)	
21-30	20(13.6)	
31and above	1(0.7)	
Extension Contact		
Yes	67(45.6)	
No	80 (54.4)	
Affordability of traditional medicine		
Affordable	130(88.44)	
Not affordable	17(11.56)	
Training on preparation and use of traditional medicine		
Yes	0(0)	
No	147(100)	

Source: Field survey, 2022

About 62.6% of the farmers were male implying that farming in Osun State is a male dominated enterprise while 87.8% of them were married. More, so the mean household size is 7 with 51.0% of them not having formal education. The result on Table 1 also shows that majority (63.9%) of the farmers have farm size of between 1 – 2ha, mean farm experience was 20 years while non-access to extension contact was 54.4%. The result implies that majority of the farmer in the State are small scale farmers who have many years of farming experience without access to extension contact. The result is in agreement with the findings of Theophilus, (2020) who reported that the mean age of the respondents was 44years, 10.8% of respondents had no formal education while the remaining 89.2% of respondents had formal, 72.1% were married with mean household size of 8 persons, mean farm experience was 16 years while mean farm size was 2.2ha. Furthermore, 88.4% of the farmers agreed that traditional medicine is affordable. This could be to the fact that the raw materials are locally sources hence low cost of production and almost zero transport fare. Training is the process of learning the skills you need to do a particular job or activities. From this study, none of the farmers accessed training on the preparation and use of tradition medicine which implies that the farmers are stickily using their age long knowledge about traditional medicine.

Table 2 revealed that information's from family and friends (82.3%) was the most effective means of getting information on traditional medicine by farmers in Osun. While Radio (36.1%) and traditional health healers (36.7%) ranked second and third respectively This result could be attributed to the strong family tiers that exist in Africa settings especially in Nigeria and that radio was one of the most effective means of receiving information by farmers probably because most rural dwellers

own radio more than any other electronic medium of receiving information. The study is in line with the findings of Yaschilal *et al.* (2022) who reported that families and friends (80.0%) and neighbors (12.3%) were the most common sources of information in the study area (Northeast Ethiopia).

TABLE 3. Information source on traditional Medicine among farmers in Osun State

Information source	Always	Sometimes	Never
Family and friends	121 (82.3)	26(17.7)	0(0)
Radio program	54(36.7)	65 (44.2)	28(1)
Traditional health healer	53 (36.1)	83 (56.5)	11(7.5)
Traditional medicine consultant	44(29.9)	77(52.4)	26.12
TV program	36 (24.5)	78(53.1)	33(22.4)
Health flyers	51(34.7)	18(12.2)	78(53.1)
Health education journal	23(15.6)	50(34.0)	784(50.3)
Agro newspaper	19(12.9)	37(25.2)	91 (61.9)
Health extension agent	20(13.6)	26(17.7)	101(68.7)

Source: Field survey 2022 Multiple responses recorded

Table 3 shows that effectiveness of traditional medicine in treating ailments ($\bar{X} = 3.94$) and lack of time to see a physician ($\bar{X} = 3.91$) are the first and second reasons why farmers in Osun State use traditional medicine. The above result might be to the fact that farmers spend less time to see traditional medicine physician as they never have long queues compared to conventional hospital. In recent times, there has been sudden increase in herbal products and sales representatives in markets, shops, healing centers, motor parks, stores, hawkers and clinics. The study is in line with the findings of Adam and Awunor (2014) who reported that most of the perceived factors affecting utilization of health facilities are related to accessibility in terms of skilled man-power; cost, quality service, waiting time and distance.

TABLE 4. Reasons for preference of traditional Medicine among farmers in Osun State

Reasons	SA	A	U	D	SD	SW	MW	Decision	Rank
Effectiveness of traditional medicine in treating ailments	35(175)	79(316)	26(78)	4(8)	3(3)	580	3.94	Agree	1 st
Lack of time to see a physician	44(220)	75(300)	10(30)	7(14)	11(11)	575	3.91	Agree	2 nd
Marketing strategies and efforts by various marketers and their sales representatives	50(250)	57(228)	16(48)	20(40)	4(4)	570	3.88	Agree	3 rd
Fear of possible misdiagnosis	30(150)	87(348)	18(54)	6(12)	6(6)	570	3.88	Agree	3 rd
Freedom of choice of health practitioner	31(155)	31(124)	26(78)	45(90)	14(14)	461	3.13	Agree	4 th
Fear of confidentiality in handling health information	26(130)	46(184)	24(72)	16(32)	35(35)	453	3.08	Agree	5 th
Due to influence of religion and spiritual consciousness	10(50)	18(72)	17(51)	21(42)	81(81)	296	2.01	Disagree	6 th

Source: Field survey, 2022. Note: S=Strongly Agree, A=Agree, U=Undecided, D=Disagree, SD=Strongly Disagree, SW= Sum Weight, MW=Mean weight. Cut off mean=3.00

TABLE 5. Perception of farmers on the use of traditional medicine in Osun State

Perception	SA	A	U	D	SD	SW	MW	Decision	Rank
Traditional medicine is sourced from nature which makes it safe for the body	39(195)	82(328)	16(48)	8(16)	2(2)	589	4.00	Agree	1 st
Traditional medicine are more potent with quick potential to cure ailment	38(190)	73(292)	28(84)	4(8)	4(4)	578	3.93	Agree	2 nd
Tradition medicine are cost friendly and affordable to even the poor farmers	44(220)	53(212)	20(60)	22(44)	8(8)	544	3.70	Agree	3 rd
Majority of the traditional herb are products of farms which make it readily available	40(200)	55(220)	26(78)	13(26)	13(13)	537	3.65	Agree	4 th
Traditional medicine consultants don't require modern skills and equipment for diagnosis	44(220)	46(184)	33(99)	9(18)	15(15)	536	3.64	Agree	5 th

Note: S=Strongly Agree, A=Agree, U=Undecided, D=Disagree, SD=Strongly Disagree, SW= Sum Weight, MW=Mean weight. Cut off mean=3.00 Source: Field survey, 2022

Furthermore, results on Table 4 showed that the major reason for preference of traditional medicine among farmers in

the study area is fear of possible misdiagnosis ($\bar{X} = 3.88$) by convention hospitals/doctors. According to Rebecca *et al.*

(2021), reported that due doctors-patient ratio, the doctors usually have limited time in critically attending to their patience which could lead to wrong diagnosis and hence treatment.

Results on Table 5 showed that majority of the farmers agreed that traditional medicine is sourced from nature which makes it safe for the body ($\bar{X} = 4.00$) as the most perceived reason they patronize traditional medicine in their area. The result implies that the farmers are more comfortable taking medicine which the sources are known to them rather than taking the orthodox medicine with an unknown source. Furthermore, tradition medicines are cost friendly and affordable to even the poor farmers ($\bar{X} = 3.70$), and majority of the traditional herb are products of farms which make it readily available ($\bar{X} = 3.65$) ranked third and fourth respectively. The result implies that affordability and availability of medicine is also another strong perception of farmers on the use of traditional medicine. The reason could be that in most rural settings were traditional medicines are used, payment for treatment depends on its efficacy whereby traditional medicine consultant do not request for payment until after recovery.

Payment methods are usually friendly since most of the respondents are farmers who pay their bills in instalment. Payments for treatment are also not necessarily made in cash that is, it can be done in other friendly terms as giving farm produce and working in the farm since they reside in the same village with the herbalists. The result is in disagreement with the findings of Belachew *et al* (2021), who reported that majority (75.3%) of the respondents preferred modern medicine and only 9.2% of the participants preferred the use of traditional medicine for any types of ailments.

The common ailment and herbs used among farmers in Osun state.

Result in Table 6 shows that most farmers reported that use of traditional medicine gives symptomatic relief and its very effective in treatment of Malaria ($\bar{X} = 3.84$). This implies that malaria is the leading ailment in the study area. The result is in consonance with findings of Theophilus, (2020) who opined that 46% of them were infected by malaria. Also, Belachew *et al* (2021) reported that the common ailments for which traditional medicine was used for include cough, headache and intestinal/stomach infections.

TABLE 6. The common ailment which herbs are used for among farmers in Osun State.

Ailment	VH	H	L	VL	SW	MW	Decision	Rank
Malaria	110(440)	31(93)	3(6)	3(3)	542	3.68	High	1 st
Cough	89(356)	49(147)	5(10)	4(4)	517	3.51	High	2 nd
Ulcer	64(256)	46(138)	30(60)	7(7)	459	3.12	High	3 rd
Pneumonia	69(276)	27(84)	31(62)	20(20)	442	3.00	High	4 th
Indigestion	68(272)	28(81)	30(60)	21(21)	434	2.95	High	5 th
Diabetes	56(224)	35(105)	28(56)	28(28)	413	2.80	High	6 th
Dysentery	52(208)	39(117)	11(22)	45(45)	392	2.66	High	7 th
Hepatitis	25(100)	22(66)	67(134)	33(33)	333	2.26	Low	8 th
Joint and back pain	27(108)	21(63)	46(92)	56(56)	319	2.17	Low	9 th
High blood pressure	14(56)	29(87)	60(120)	44(44)	307	2.08	Low	10 th

Source: Field survey, 2022Note: VH=Very Heigh, H=High, L=Low, VL=Very low, SW= Sum Weight, MW=Mean weight. Cut off mean=2.5

TABLE 7. Factors affecting the use of traditional medicine among farmers in Osun State

Variables	Coeff (Std. Err)	Z-value	P-value
Age	0.009(0.04)	0.21	0.83
Sex	0.187(0.36)	0.52	0.60
Household size	-0.306 (0.14)	-2.16	0.03**
Level of education	-0.222(0.08)	2.52	0.01***
Marital status	0.653(0.06)	1.06	0.29
Perception on traditional medicine	0.79 (0.43)	1.83	0.06*
Access to extension services	0.67(0.40)	1.66	0.09*
Farm experience	-0.13 (0.04)	-0.30	0.76
Annual income	0.06 (0.63)	1.10	0.27
Compatibility of traditional medicine to human body system	-0.23(0.35)	-0.65	0.51
Source of traditional medicine	0.16(0.38)	0.42	0.67
Relative advantage of tradition medicine	0.21(0.07)	2.74	0.006***
Complexity in mixing traditional medicine	0.0003(0.0004)	0.72	0.47
Knowledge level on traditional medicine	0.46(.017)	0.24	0.019**
Level of cosmopolitan	-0.81(0.36)	-2.23	0.026**
Distance to source of traditional medicine	-0.02(0.03)	-0.60	0.55
Constant	-3.64 (0.001***)		
Number of obs	147		
LR chi2(16)	94.41		
Prob > chi2	0.0000***		
Pseudo R2	0.5912		

Source: Field survey, 2022 *** Significant at 1%, ** Significant at 5% and * Significant at 10%

Factors affecting the use of traditional medicine among farmers in Osun State

Table 7 shows the Probit regression model estimate of factors affecting the use of traditional medicine among farmers

in Osun State. The Pseudo R² for the result is 59.12% while the chi-square is 0.0000. The result reveals that level of education is positive and significant at 1% level of probability which implies that increase in education by one level can lead to

increase in the odds of the farmers using traditional medicine by 0.22. The reason for the result could be that as farmers get more educated, they tend to be more civilized, cosmopolitan and will want to shift away from using traditional things to modern items. Relative advantage of traditional medicine was positive and significant at 1% level of probability which indicates that increase in relative advantage of traditional medicine over orthodox medicine by one unit will lead to increase in the odds of using traditional medicine by farmer by 0.22. The result could probably be to the fact that farmers usually want to consume what is found in their environment and will want to align themselves with their ancestors and nature.

Household size is positively significant at 5% level of probability which implies that as the size of household increase by one person, the odds of using traditional medicine will increase by 0.31 unit. The reason for the result could be to the reason that as the household size increase by one person, the cost-of-living increases for the household as such the household head will seek for a cheaper and more available means of health care for members of his family. Knowledge level on traditional medicine is significant at 5% level of significance. The result implies that as the farmers gain more knowledge on traditional medicine, they might tend to increase its patronage probably because the individual might have realized its composition and efficacy. Cosmopolitan which implies growing, living or travelling to many parts of the world is positive significant at 5% level of significance. This implies that as an individual becomes more cosmopolitan, the individual might tend to use more of traditional medicine. The reason for the result could be that the farmer might have used and compare the tradition medicine with those outside his locality and realized that the traditional medicine was probably cheaper, effective, safe and readily available than the other drugs. The result in line with the findings of Newman *et al.* (2003): Li-Weber *et al.* (2009) and Haidan *et al.* (2016) who reported that amid anticancer drugs approved between the time frame of 1940–2002, approximately 54% were naturally derived products or drugs produced from knowledge related to such. For instance, the Vinca alkaloids from *Catharanthus roseus*, and the terpene paclitaxel from *Taxus baccata*, were among the efficacious anticancer drugs originally derived from plants. Also, artemisinin was derived from *Artemisia annua L.* a local herb in China as a drug for treating malaria in 1972 (Zhao *et al.*, 2012; Li, 2012 and Haidan *et al.*, 2016).

Perception which is the conscious understanding of something by an individual and access to extension services were positively significant at 10% level of significance. The result implies that increase in the perception of a farmer and access to extension contact will leads to increase in the odds of using traditional medicine by 0.79 and 0.68 respectively. When farmers tend to have positive perception towards traditional medicine, they might tend to use more of it. Furthermore, increase access to extension contact will lead to increase in the use of traditional medicine due to the fact that extension agents usually inform farmers about health benefits of some plant around them which might encourage them to use more of it as a remedy instead of going to the hospital when sick. Belachew *et al.* (2021) reported that educational level was among the

factors affecting the practice of traditional medicine in the study area.

IV. CONCLUSION

From this study, it can be concluded that farmers in Osun State are majorly male, middle age, mostly married, experienced and operated on a small scale. Most of the farmers have one form of education or the other. More so, traditional medicine are cost friendly and affordable to even the poor farmers because majority of the traditional herb are products of farms which makes it readily available to the farmers. Information's from family and friends was the most effective means of getting information while effectiveness of traditional medicine in treating ailments and lack of time to see a physician were some of the reasons why farmers in Osun State use traditional medicine. Furthermore, household size, knowledge level on tradition medicine, level of cosmopolitan, level of education, relative advantage of tradition medicine, perception on traditional medicine and access to extension services were some of the factors affecting the use of traditional medicine among farmer.

V. RECOMMENDATIONS

- ❖ The study therefore recommends that individuals who have knowledge about traditional medicine should undergo training and re-training on the use of traditional medicine so as to have better understanding on its prescription.
- ❖ Since traditional medicine is effective in treating ailments, It can therefore be recommended that an advocacy campaign be carried out to encourage patronage and use of traditional medicine, given that some of the imported or foreign drugs are made from herbs as well.
- ❖ Traditional medical are mostly used probably because they are more affordable. Hence government at all levels should provide affordable health service to lessen the burden of illness and waiting time at the hospital.

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