PERCEIVED EFFECTIVENESS OF ALTERNATIVE MEDICINE AMONG ARABLE CROP FARMERS IN IREPODUN LOCAL GOVERNMENT AREA, KWARA STATE

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ABSTRACT

This study investigated the perceived effectiveness of alternative medicine (AM) among arable crop farmers in Irepodun Local Government Area of Kwara State. Six (6) rural communities were purposively selected from the LGA and twenty (20) arable crop farmers were randomly selected from each of the communities making 120 respondents. Primary data was collected using structured interview schedule and was analyzed using both descriptive and inferential statistical tools. The study revealed that the mean age of the arable crop farmers was 60.3 ± 14 years. Majority (80.8%) of the farmers were married, with mean household size of 3.9 ±1.4 persons, and mean years of schooling of 10.0±4.7 years. The mean annual income of the farmers' was151, 233.3 ± 68526.4 naira and mean annual savings of 58666.7±29675.1 naira. Majority (68.3%) of them were Christians, with above average (56.7%) having acquired their farm land through inheritance. The most important source of knowledge about AM was radio (33.3%). The study reveal that the AMs were highly known includes: Carica papaya, (98.3%) Mangifera indica, (98.3%), Azadirachta indica, (97.5 %,) Cassia alata, (93.3%), and Cnidoscolusa cutifolium, (90%) Also, 65% of the respondents had high usage of AM, 55% of them perceived AM as very effective while 45% had high satisfaction with AM. The number of extension training attended ($t=2.43$ $p\leq 0.01$) and farm size ($t=5.19$ $p\leq 0.01$) income had positive and significant relationship with the perceived effectiveness while extension contact ($t = -3.22$; $p\leq 0.01$) and income ($t = -2.51$; $p\leq 0.01$) had negative and significant relationship with the perceived effectiveness. It is concluded that AMs were highly used, effective and satisfactory to rural dwellers in the study area. It is recommended that rural health extension workers should encourage and promote the use of AM.

Keywords: Perceived effectiveness, alternative medicine, arable crop farmer

INTRODUCTION

Alternative medicines are drugs made from herbs or plants. They are also commonly referred to as phytomedicines, plant medicines, green medicines, traditional medicine potions, traditional remedies, plant drugs and forest health products among others (Osemene, 2011; Elujoba, 1998) and have been in practice for thousands of years. From the standpoint of modern medicine, AM has been known as traditional medicine, alternative healing, or the home remedy. However, before the existence of contemporary medicine,

alternative medicine was the only health care available.

Alternative medicine is the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness. (World Health Organization,(WHO), 2014),Alternative medicine includes herbal medicine, bone setting, spiritual therapies, circumcision, maternity care, psychiatric care, massage therapy, aromatherapy, music therapy, homeopathy and a lot of others (Borokini, et al., 2014).

The practice of AM outside the biomedical system of medicine, which is practiced by medical doctors, has always been an important part of public health care in some countries, particularly in the developing world. In its various forms, AM is enjoying a growing popularity among the public.(WHO,2010) According to Moody (2007), over 80% of people living in developing countries depend on herbal medicines as their immediate choice in the treatment of diseases showing its relevance and importance in Primary Health Care. According to Coulter and Willis (2004), dissatisfaction with mainstream biomedicine, particularly with regards to patient-physician relationship, concerns over the side-effects of drugs and personal beliefs favouring a more holistic orientation to health care are often quoted as some of the explanations for preferred use of AM.

In Nigeria, agriculture is the source of livelihood for over 80% population. Agriculture is more or less geared towards human health at the highest level of consideration. WHO (2006), defines health as the state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. This definition of health encompasses well-being including quality of life, positive mental health, and the consideration of culturally sensitive approaches to healthcare as well as indigenous and alternative forms of healing. (Gbolagade, et. al., 2013) opined that good health affects agriculture by boosting farmer's capacity for work and thus increasing how much they can produce.

Most rural areas were starved of medical facilities as physicians are unwilling to live and work in rural areas. According to Sorungbe, (1991), only 39% of the rural communities have been accessed with the Government established primary health care. Till date, most rural medical centres have no medical doctors and those posted there, visit the hospitals only once or twice a week for medical consultations by patients. In spite of the sophistication of conventional medicine, alternative medicine still has its potential importance and advantages, which cannot be over-ruled. Therefore, the objectives of this study were to describe the socio-economic characteristics of AM users; determine their level of knowledge, usage and effectiveness of AM, evaluate users' satisfaction with AM and identify the constraints to the use of AM in the study area.

HYPOTHESIS

There is no significant relationship between socio-economic characteristics of the arable crop farmers and the perceived effectiveness of AM.

RESEARCH METHODOLOGY

Kwara State is located in the North Central Geographical Zone of Nigeria within latitudes 7o 45'N and 9o 30'E and 6o 25'E. It covers a total land area of about 36,825 square kilometers. The state comprises 16 Local Governments Areas (LGA's) which are further grouped by Kwara State Agricultural Development Project (KWADP) into four zones. The Irepodun LGA was purposively selected because of its level of rurality and arable crop production and six (6) rural communities were selected for the study. Twenty (20) arable crop farmers were randomly selected from each of the communities making 120 respondents for the study. Data was collected using structured interview schedule. The data collected were analysed using appropriate descriptive and inferential statistical tools. Multiple regression analysis was used to test the hypothesis. The dependent variable was the effectiveness of alternative medicine and was measured with 20 items in a 3-point Likert type scale of cure (3), relief (2), not cure (1). The maximum point was 60 while the minimum point was 20. To determine the perceived effectiveness of AM, the total effectiveness score was categorized into 3: high, low and medium/moderate. Respondents with scores within high was place within mean + standard deviation were categorized as high, those with scores within mean – standard deviation were categorized as low, while those with scores within mean ± standard deviation were categorized as medium/moderate. The midpoint was calculated thus; 1+2+3 = 6 divided by 3 to obtain 2 which was used to rate the perceived effectiveness of AM. Mean scores above 2 were considered as high, those below 2 as low and those with 2 exactly as medium. Satisfaction was also measured on a 5 point Likert Type scale thus VS = very satisfied, 5 S = satisfied, 4U = undecided, 3 D= dissatisfied, 2 VD = very dissatisfied, 1

RESULT AND DISCUSSION

Socio-economic characteristics of the arable crop farmers

The result in Table 1 showed that more than the average (53.3%) were 60 years and above with the mean age of 60.3 ± 14 years. This is a pointer to the fact that majority of the rural dwellers in the study area were old people. This is may not be unconnected with migration of rural youths to the urban areas in search of white collar jobs. Also, AM is more important to the old because of the various health issues associated with ageing. Areo (2014), obtained a similar result in Osun State with 59% of the respondents being 55years and above. Majority (85.8%) of the respondents were male. This could be as a result of the arduous tasks involved in arable cropping such as ridging, weeding and planting which are more male oriented jobs. Amany, et al., (2010) reported that AM was commonly practiced among older subjects (69.3% in the age group 45-70 years) in their study area. Majority (80.8%) of the respondents were males (85.8%) and married. This may be as a result of the fact that they have more needs for health care services for themselves, spouses and as well as their children. The result showed the mean household size of 3.9 ±1.4 persons. Majority (68.3%) of the respondents were Christians while 29.2% were Muslims. Borokini and Lawal (2014) reported a Christian-based medicinal plant therapy and that the Islamic faith also supported the

use of AM. They affirmed that Islam seems to publicly support AM and that many Islamic priests are also traditional medicine practitioners and herbalists. This implies that religion is not a barrier to the use of alternative medicine. More than average (56.7%) of the respondents acquired their farmland by inheritance implying that most of the farmers were indigenous people (natives) rather than strangers. The mean number of years of schooling was10.0±4.7. Ajala, et al., (2013) reported a mean number of years of schooling of 7.9±3.8 years among rural dwellers in their study area. Farmers with low level of education are more likely to be favourably disposed to the usage of AM than the highly educated people. The mean number of contact with extension agents was 1.3 ± 0.9, while the mean number of training meetings attended by the farmers was 1.2 ± 0.6. Ajala, et al., (2013) reported Adesoji (2009), that there was low level of extension contact among fish farmers in Osun State. This indicates that farmers had very few contacts and meetings with the extension agents implying that extension agents had little or no contribution to the knowledge and use of alternative medicine. The mean annual income and annual savings of the farmers were151, 233.3 ± 68526.4 naira and 58666.7 ± 29675.1 naira respectively. This was comparable to Izekor and Ajobi (2016) who reported a mean annual income of N173, 876.00k amongst cassava farmers. This finding suggests that most the respondents were small scale, low-income earning farmers that produce and provide mainly for their family consumption and less for commercial purpose. It also implies low financial strength of the respondents which may in turn influence their use of alternative medicine since it is more affordable and accessible for their healthcare needs. Furthermore, (66.7%) of respondents were fulltime farmers. This result indicates that majority of the arable crop farmers depend completely on agriculture for their livelihood with a mean farm size of 0.5 ± 0.2 hectares. According to the criteria set by Olayide, et al., (1980) that all the farmers operating on less than 5 hectares of land are small-scale farmers. The majority (84.2%) of the respondents engaged hired labour. The result showed that majority (76.67%) of the respondents indicated personal savings as their source of capital. Izekor and Ajobi (2016) reported that majority of the taungya farmers in their study area representing 99.5% depend on their personal savings to finance their farming activities. This shows that personal savings was the main source of capital used for farming among the respondents. This is an indication that small scale farmers were not having access to enjoying government credit facilities.

Table 1: Distribution of socio-economic characteristics of respondents

Variable	F	%	Mean	Std.Dev.
Age in years				
30.00 - 39.00	11	9.2		
40.00 - 49.00	21	17.5	60.3	14.1
50.00 - 59.00	24	20		
60.00+	64	53.3		
Sex				
Male	103	85.8		
Female	17	14.2		
Marital status				
Single	3	2.5		
Separated	97	80.8		
Married	1	0.8		
Divorced	19	15.8		
Household size				
<5.00	84	70		
5.00 - 9.00	36	30	3.9	1.4
Religious affiliation				
Christianity	82	68.3		
Traditional religion	3	2.5		
Islam	35	29.2		
Mode of acquiring farmland				
Inheritance	68	56.7		
Purchase	9	7.5		
Rented	8	6.7		
Lease	7	5.8		
Village land	27	22.5		
Others	1	0.8		
Years of schooling				
<6.00	63	52.5		
6.00 - 11.00	35	29.2	10.0	4.7
12.00+	22	18.3		
Level of schooling completed				
Primary	59	49.2		
Junior secondary	35	29.2		
Senior secondary	19	15.8		
Completed university	3	2.5		
Non formal	4	3.3		
No of contacts with extension agents			1.3	0.9
No. of ext. training meetings attended			1.2	0.6
Annual income				
<200000.00	93	77.5		
200000.00 - 399999.00	27	22.5	151233.3	68526.4
Annual savings				
<100000.00	108	90		
100000.00 - 199999.00	12	10	58666.7	29675.1
Occupation				
Full time farming	80	66.7		
Part time farming	40	33.3		
Estimated farm size			0.5	0.2
Type of labour	4	3.3		
Hired labour	101	84.2		
Family labour	12	10		
Mechanized labour	3	2.5		
No. of hired labour employed			3.0	2.0

Source: Filed survey, 2017.

Source of knowledge of alternative medicine.

Figure 1 shows the distribution of the respondents source of knowledge about the alternative medicine, less than average (33.3%) of the respondents indicated radio as their source, 32.5% television, 26.7% friends and neighbours, 2.5% salesmen, 1.7% family and leaflet / agricultural newsletter while 0.8% extension agent and newspaper. Areo (2014) reported that majority (79%) of AM users in his study were aware of AM through radio while 31% got their awareness about AM from television.

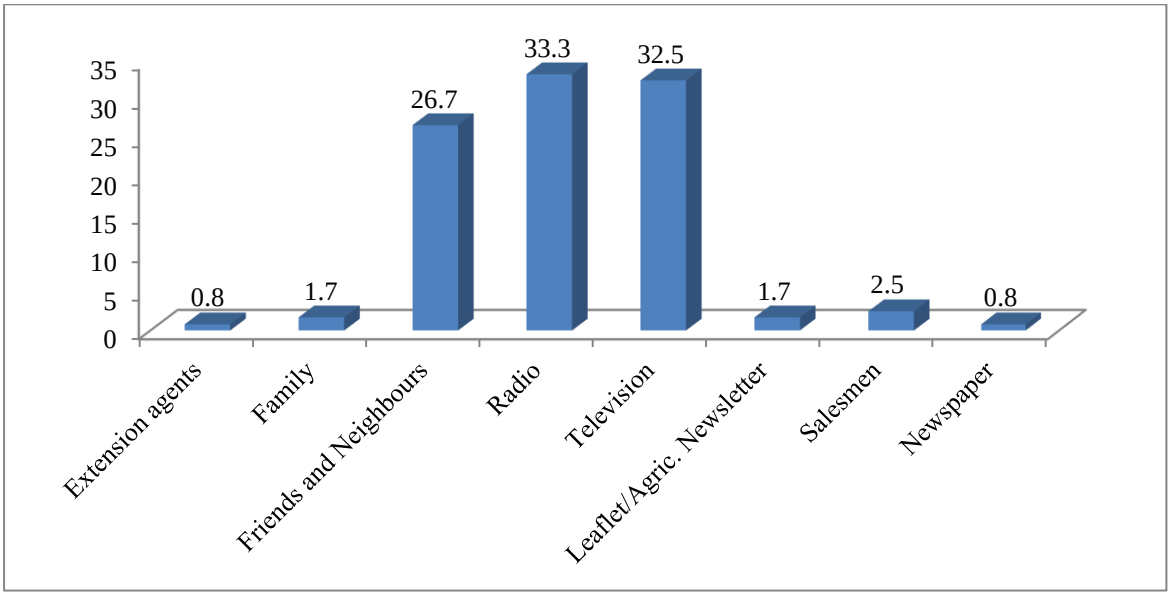

Figure 1: Distribution of respondents by their sources of knowledge about AM
Source: Field survey, 2017.

Level of usage of AM.

The list of the AMs and the diseases they are used to treat are as stated in Table 3. Also, in Figure 2 shows that about 65% of the respondents have highly usage of AM while 35% of the respondents have low usage of AM. This implies that many farmers in the study area still utilize AM to treat diseases and ailments despite current emphasis place on conventional treatment. In her findings, Onyiapat,*et al.*, (2011) reported that most(71%) of the respondents studiedused one to five different forms of AM, while only few (0.3%) used between sixteen to twenty forms. Nwachukwu,*et al.*, (2010) in his findings confirmed that the infusion of*Carica papaya*, *Azadirachtaindica* and *Mangiferaindica*were used for the treatment of malaria and jaundice among others.Gideon, et., al. (2015), stated that fever was the main ailment treated with *Carica papaya*and that 83.5% of his respondents can prepare them for use and up to 90% of this has at one time or the other been involved in self-treatment or prescription.

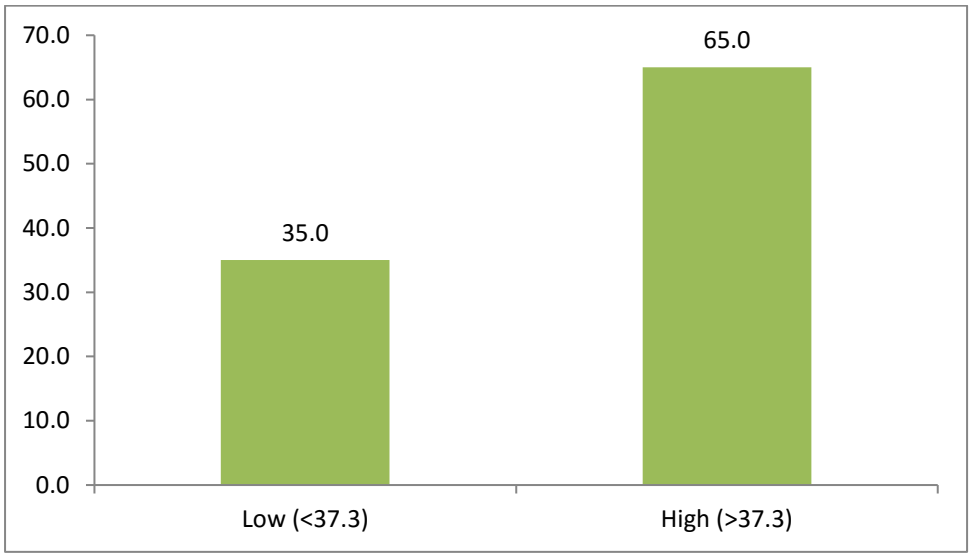

Figure 2: Level of usage of alternative medicine
Source: Field survey, 2017.

Table 2: Usage of alternative medicine among respondents

Name	Indigenous Yoruba Name	Ailments	Mean	Std.Dev	Rank
Carica papaya	Ibepe	Malaria, Convulsion, Gonorrhea	2.45*	0.88	1st
Azadirachtaindica	Dongoyaro	Malaria, fever	2.36*	1.07	2nd
Mangiferaindica	Mangoro	Malaria, Diabetes, High Blood Pressure	2.29*	0.84	3rd
Cnidoscolusacutifolium m.	Iyanapaja	Hypertension, Blood tonic	2.18*	0.98	4th
Cassia alata	Jedi powder	Pile	2.16*	1.10	5th
Parkiabiglobosa	Igi-iru	Sight disorder, Malaria, High Blood Pressure, Mental disorder, Wounds	1.98*	1.34	6th
Caloptrophisprocera	Bomu bomu	Skin and eye problem	1.87*	1.18	7th
Chrysophyllumalbidun	Agbalumo	Fever, Stomach ache, Ulcer, Diarrhea	1.87*	1.22	8th
Moringalucida	Oruwo	Malaria, Jaundice, Diabetes	1.86*	0.88	9th
Euphorbiacameronica	Oro-agogo	Skin infection	1.61*	1.24	10th
Adansoniadigitata	Ose	Malaria, Skin diseases, Toothache	1.57*	1.35	11th
Bombaxbuonopozense	Ponpola	Skin diseases and wounds	1.55*	1.33	12th
Elaeisguineensis	Igi-ope	Malaria, Mental disorder, Asthma	1.54*	1.38	13th
Jatropha curcas	Botuje	Eczema, Convulsion, Smallpox, Fever	1.44	1.13	14th
Rauvolfiavomitora	Asofeyeje	Malaria, Hypertension, convulsion, Skin diseases	1.33	1.24	15th
FuntumiaElastic	Ire	Jaundice, Pile, Haemorrhoid	1.09	1.04	16th
OncobaSpinosa	Panisa	Cough, sore throat, wounds	1.02	0.93	17th
MiliceaExcels	Iroko	Wounds and skin ailment, Cough, pile, Tiredness	0.73	0.79	18th
Ficusthonningii	Odan	Wounds, fever, Dysentery, Diarrhoea, Respiratory tract infection	0.78	0.78	19th
Gmelinaarborea	Igi Melina	Stomach ache, Cough, Gonorrhoea	0.73	0.74	20th

Source: Field survey, 2017.
***Mean≥1.5= High usage**

Perceived effectiveness of AM.

In Figure 3 above average (55%) of the farmers perceived AM as very effective while 45% perceived AM as having low effectiveness. This is in line with findings of Onyiapat (2014) that the growing public acceptance of herb and other products was because they are generally perceived to be more natural with fewer side effect, as well as influence well-being and quality of life. Also, Mbada,*et al.*,(2015), reported in their findings that 63.7% of the respondents believed that alternative medicine is more effective in healing than orthodox medicine and that 44.5% of the respondents disagreed with the opinion that the people who do not have money for treatment from medical doctors are more likely to use alternative medicine.

From the ranked alternative medicine about 13 out of 20 are effective. Those ranked 1 - 6 were highly effective which means it cures.

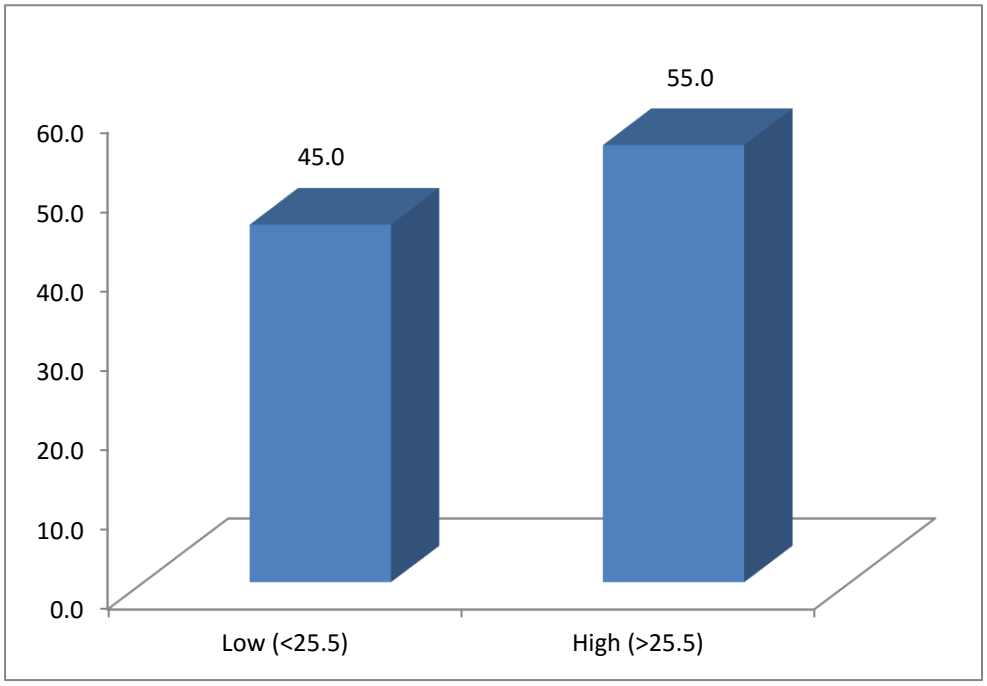

Figure 3: Level of percieved effectiveness of alternative medicine
Source: Field survey, 2017

Table 3: Distribution of respondents by the effectiveness of alternative medicine

Name	Local Name	Ailments	Mean	Rank
Azadirachta indica	Dongoyaro	Malaria, fever	2.59**	1st
Cassia alata	Jedi powder	Pile	2.49**	2nd
Carica papaya	Ibepe	Malaria, Convulsion, Gonorrhea	2.35**	3rd
Mangifera indica	Mangoro	Malaria, Diabetes, High Blood Pressure	2.33*	4th
Cnidoscolus acutifolium m.	Iyanapaja	Hypertension, Blood tonic	2.19**	5th
Moringa lucida	Oruwo	Malaria, Jaundice, Diabetes	2.08**	6th
Parkia biglobosa	Igi-iru	Sight disorder, Malaria, High Blood Pressure, Mental disorder, Wounds	1.88*	7th
Caloptrophis procera	Bomu bomu	Skin and eye problem	1.86*	8th
Chrysophyllumalbidun	Agbalumo	Fever, Stomach ache, Ulcer, Diarrhea	1.76*	9th
Euphobia cameronica	Oro-agogo	Skin infection	1.76*	10th
Elaeis guineensis	Igi-ope	Malaria, Mental disorder, Asthma	1.63*	11th
Bombax buonopozense	Ponpola	Skin diseases and wounds	1.58*	12th
Adansonia digitata	Ose	Malaria, Skin diseases, Toothache	1.54*	13th
Rauvolfia vomitora	Asofeyeje	Malaria, Hypertension, convulsion, Skin diseases	1.34	14th
Jatropha curcas	Botuje	Eczema, Convulsion, Smallpox, Fever	1.32	15th
Funtumia elastic	Ire	Jaundice, Pile, Haemorrhoid	1.17	16th
Oncobaspinosa	Panisa	Cough, sore throat, wounds	1.15	17th
Ficus thonningii	Odan	Wounds, fever, Dysentery, Diarrhoea, Respiratory tract infection	0.89	18th
Milicea excelsa	Iroko	Wounds and skin ailment, Cough, pile, Tiredness	0.73	19th
Gmelina arborea	Igi Melina	Stomach ache, Cough, Gonorrhoea	0.61	20th

Source: Field survey, 2017.
*Mean≥1.5= Effective

Level of satisfaction with alternative mecicine

In Figure 4, 45% of the respondents had high satisfaction with AM usage while 55% low indicated satisfaction with it. This may be as a result of the fact that AM does not give fast relief like orthodox medicine. However, this could be a pointer to the fact that farmers are not only using AM but are to some extent satisfiedwith it.Mbada,*et al.*,reported that majority of the respondents in his study area believed that AM is very good in maintaining a healthy life with fewer side effectswhile 63.7% believed that AM is more effectivein healing than OM.

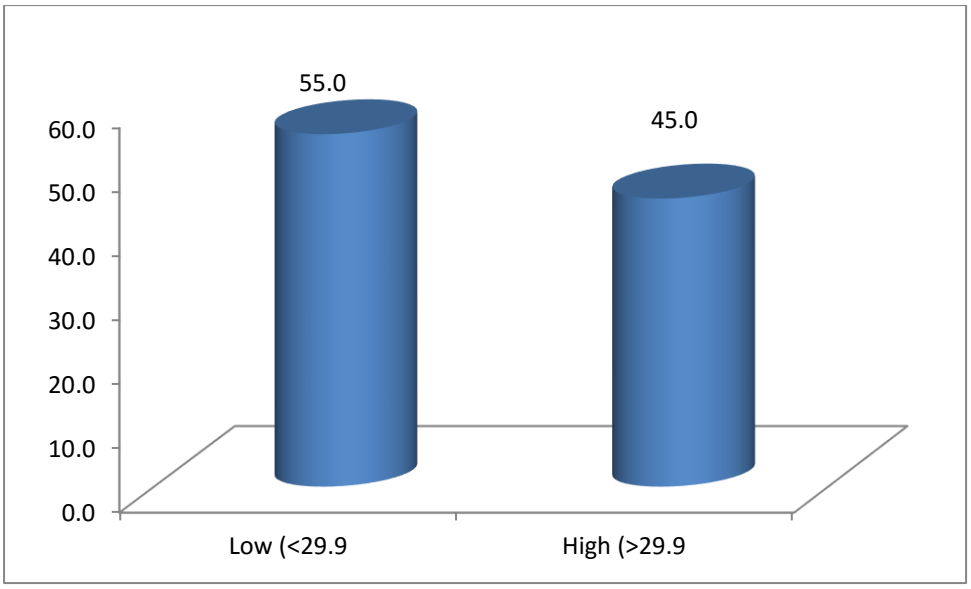

Figure 4: **Level of satisfaction with alternative mecicine among respondents**
Source: Field survey, 2017.

Table 4: Satisfaction level of alternative medicine among respondents

Name	Local Name	Ailments	Mean	Std.Dev	Rank
Azadirachtaindica	Dongoyaro	Malaria, fever	2.58*	0.80	1st
Mangiferaindica	Mangoro	Malaria, Diabetes, High Blood Pressure	2.40*	0.63	2nd
Cassia alata	Jedi powder	Pile	2.37*	1.04	3rd
Carica papaya	Ibepe	Malaria, Convulsion, Gonorrhea	2.29*	0.76	4th
Cnidoscolusacutifolium m.	Iyanapaja	Hypertension, Blood tonic	2.10*	0.90	5th
Moringalucida	Oruwo	Malaria, Jaundice, Diabetes	2.09*	0.53	6th
Parkiabiglobosa	Igi-iru	Sight disorder, Malaria, High Blood Pressure, Mental disorder, Wounds	1.78*	1.41	7th
Caloptrophisprocera	Bomu bomu	Skin and eye problem	1.67*	1.25	8th
Euphorbiacameronica	Oro-agogo	Skin infection	1.66*	1.30	9th
ChrysophyllumAlbidun	Agbalumo	Fever, Stomach ache, Ulcer, Diarrhea	1.59*	1.34	10th
Adansoniadigitata	Ose	Malaria, Skin diseases, Toothache	1.43	1.38	11th
Elaeisguineensis	Igi-ope	Malaria, Mental disorder, Asthma	1.43	1.36	12th
Rauvolfiavomitora	Asofeyeje	Malaria, Hypertension, convulsion, Skin diseases	1.38	1.30	13th
Bombaxbuonopozense	Ponpola	Skin diseases and wounds	1.30	1.39	14th
Jatropha curcas	Botuje	Eczema, Convulsion, Smallpox, Fever	1.15	1.04	15th
Funtumiaelastic	Ire	Jaundice, Pile, Haemorrhoid	1.07	1.03	16th
Oncobaspinosa	Panisa	Cough, sore throat, wounds	1.02	0.95	17th
MiliceaExcels	Iroko	Wounds and skin ailment, Cough, pile, Tiredness	0.78	0.88	18th
Ficusthonningii	Odan	Wounds, fever, Dysentery, Diarrhoea, Respiratory tract infection	0.71	0.69	19th
Gmelinaarborea	Igi Melina	Stomach ache, Cough, Gonorrhoea	0.59	0.60	20th

Source: Field survey, 2017.
***Mean≥1.5= High satisfaction**

TEST OF HYPOTHESIS

As shown in Table 6below, the results reveal that four out of the nine coefficients of the explanatory variables are significant, indicating that any change in any of these factors resulted in a change in the perceived effectiveness of the AM among the respondents of the study. A positive change occurs in number of training and farm size while a negative change occur in number of extension contact and income. The positive change shows that a unit increase in any of the explanatory variable will increase the effectiveness of the AMby their corresponding values while the negative change implies that an increase in the explanatory variables will decrease the effectiveness of the AM by their corresponding values. This means that the higher the number of training attended and the farm size, the higher the effectiveness of AM. On the other hand, the higher the number of extension contact and income of farmers, the lower the effectiveness of the AM which means that as the income of the arable crop farmers increases, the more they are likely to seek for conventional medicine than AM. In general, about 73% of the variation in the perceived effectiveness of AM among the arable crop farmers in the study area is explained by the explanatory variables included in the regression model as indicated by the coefficient of multiple determination (R^2 = 0.73).

Table: 6:Results of multiple regression analysis showing the influence of socio-economic characteristics of respondents and their perceived effectiveness of alternative medicine.

	Unstandardized Coefficients		**Standardized Coefficients**		
	B	Std. Error	Beta	T	Sig.
(Constant)	17.49	7.82	1.30	2.24*	0.03
Age	0.09	0.09	0.12	0.99	0.32
Household size	0.18	1.01	0.02	0.18	0.86
Years of formal education	0.46	0.29	0.20	1.59	0.12
No of extension contact	-4.57	1.42	-0.37	-3.22**	0.00
No of training	3.84	1.94	0.05	2.43*	0.02
Income	-2.00	0.52	-0.19	-2.51*	0.04
Savings	1.00	0.00	0.16	1.29	0.20
Farm size	8.02	6.72	0.15	5.19**	0.00
No of labour	0.72	0.53	0.13	1.36	0.18

Source: Field survey, 2017.

****Significant at 0.01 level** **R=** 0.852 and R^2= 0.73

CONCLUSION AND RECOMMENDATION.

The study has revealed that AM is perceived as highly effective for the health care needs of rural people to improve their production and that they depend largely on it since they are relatively cheaper, easily accessible and are compatible with their cultural practices and beliefs. It is recommended that government should ensure the sustainability of these medicinal plants through establishment of more botanical gardens. Research efforts should also focus on the AM to ensure its continuous effectiveness, safety and efficacy in curing ailments among rural and urban dwellers while extension workers

should also disseminate information on effective AMs without bias.

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