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EFFECT OF FARM INCOME ON THE LIFESTYLE FACTORS OF FARMERS IN KWARA STATE, NIGERIA

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Abstract

The rising occurrence of chronic and cardiovascular diseases has brought awareness to the role that lifestyle factors play in an individual's disease risk. This study investigated the effect of income from farming on the lifestyle factors of farmers utilizing cross-sectional data gathered from 150 farmers across Kwara State, Nigeria. Three stage random sampling was utilized and the data were analyzed using Descriptive statistics, Simple Lifestyle Indicator Questionnaire and Tobit regression model. The study uncovered that 63.33% of the farmers in the investigated region practiced unhealthy lifestyles while the Tobit regression model result revealed five out of nine independent variables (namely gender, age, educational level, farm size and farm income (the variable of concern)) included in the model were discovered to be significant factors affecting lifestyle factors in the investigated region. The research therefore concluded that farm income has effect on the lifestyle factors of farmers in the study area. Howbeit, the study recommends that farmers should be sensitized on health education so as to understand the pros and cons to various lifestyle factors practiced in order for them to be more cautious regarding their health.

Key words: *income, lifestyle, health, rural, Tobit*

INTRODUCTION

Health is vital and several factors contribute to an individual's health and their risk of illness such as environment, economic and social circumstances, and a person's characteristics and behaviours [6].

Behaviours and habits such as diets, physical activity, smoking, stress and alcohol consumption contribute to a construct known as lifestyle, which can considerably affect health. The rising occurrence of chronic and cardiovascular diseases has brought awareness to the role that lifestyle factors play in an individual's disease risk. Several lifestyle habits including tobacco use, alcohol consumption, physical inactivity, an unhealthy diet, and psychological stress can contribute to an individual's risk of developing an illness [9].

The role of lifestyle factors has caused many underdeveloped and developing countries to experience an epidemiological transition from communicable to non-communicable diseases [3] and this has negative effect on their human capital development enforcing a rising economic burden on their communities [13]. Whilst the occurrence of these diseases varies with socioeconomic status the disparities can be worsen by adopted lifestyles of peoples especially among the rural populace.

The assumption is that unhealthy lifestyle practices have negative health effects and if concentrated among the vulnerable, the inequalities in health will widen [7, 19]. In this regard, it is important to consider the relationship between lifestyle factors and income.

Despite the need, the empirical evidence on the various lifestyle factors and income among rural populace is scanty. The available literatures attempted to examine the contribution of lifestyle factors such as smoking, alcohol use and obesity on income

related health inequality [16, 19], lifestyle factors like healthy eating habit and income which focused mainly on adolescents, youth, universities students and people residing in the urban areas, but there are sparse or no study that have considered the relationship between the cumulated lifestyle factors and income especially among farmers.

Hence it is crucial to evaluate the effect of farm income on the lifestyle factors of farmers in Kwara State, Nigeria. The aim of this study was to describe the socio-economic characteristics of the farmers; identify the lifestyle factors practiced by farmers; and examine the effect of farm income on the lifestyle factors of farmers in Kwara State.

MATERIALS AND METHODS

Study Area

This study was conducted in Kwara State. Kwara State with a total of sixteen Local Government Areas has a population of 3,192,893 and a total land size of 3,682,500 hectares [17, 14]. It is located between latitudes $7^0$45'N and $9^0$30'N and longitude $2^0$30'E & $6^0$25'E. The annual rainfall ranges between 1,000mm and 1,500mm while the average temperature ranges between 300C and 350C. It likewise has an estimated figure of 203,833 homestead families with large numbers living in rural areas [15]. The State is divided into four zones by the Kwara State Agricultural Development Project (KWADP) in consonance with environmental attributes, social practices and project's administrative convenience. Kwara State is principally agrarian with incredible breadth of arable land and rich prolific soils and the major crops commonly cultivated in the state include: yam, cassava, rice, maize, sorghum, cowpeas, groundnut, melon, okra, pepper and some verdant vegetables [14].

Data and Sampling Techniques

A three stage random sampling technique was utilized for the research study. Random sampling method was used in the first stage to select two (2) zones from the four agricultural zones in the state; the second stage included the random selection of five (5) villages from each of the two (2) agricultural zones in the state making a total of ten (10) villages; while the third stage was the random sampling of fifteen (15) farmers from every one of the chosen villages. A sum of 150 farmers were sampled for the study. The data for this study were elicited from the respondent with the aid of a structured questionnaire which was used to seek response on the socio-economic characteristics of farmers, other sources of livelihood and their lifestyle factors in Kwara State, Nigeria.

Analytical Techniques

Descriptive Statistics

Descriptive statistics encompassing the use of measures of central tendency and dispersion (mean, mode, median and standard deviation), percentages, frequency and tabulation was used to capture the socio-economic characteristics and lifestyle factors of the farmer.

Lifestyle Factor Score

The lifestyle factor score was captured using the Simple Lifestyle Indicator questionnaire (SLIQ) which has been tested for reliability and validity by previous researchers [11, 4]. The SLIQ questionnaire consists of 12 questions on diets, physical activity, alcohol consumption, smoking and stress. The overall SLIQ score is established by adding the 5 category raw scores (each category score is 0, 1, or 2), thus the SLIQ score ranges from 0 - 10. The overall SLIQ score was then categorized into:

Unhealthy Lifestyle = If the overall SLIQ score is 0 - 4

Intermediate Lifestyle = If the Overall SLIQ score is 5 - 7

Healthy Lifestyle = If the Overall SLIQ score is 8 - 10.

Tobit Regression Model

Tobit Regression model was utilized to analyse effect of income from farming on farmers' lifestyle factors. Tobit Regression model is used when a dependent variable assumes some constant value for some observations and a continuous value for the rest observations [12]. It was developed by Tobin in 1958 [1, 5] to deal with the problem of censored data. Hence, in this study the dependent variable was a censored variable in which it assumed a constant or threshold

value of score of 5* for farmers who practiced healthy lifestyles. Assume, nevertheless, that Yi is observed if the latent variable Yi* < score of 5 and is not observed if Yi* > 5score. Then the observed Yi will be defined as:

$$Yi = \{Yi* = \beta Xi + Ui \qquad \text{if } Yi* < 5$$

$$\text{if } Yi* \geq 5$$

where:
Yi* is the latent (unobserved) variable,
Yi is the observed variable,
Xi is vector of explanatory variables,
Ui is a vector of error terms and
β is a vector of parameters to be estimated.
*Note that score of 5 is the threshold value for healthy lifestyle as stated by [4].
where:
Y = Farmer Lifestyle Factor
X_1 = Gender (male=1; female=0)
X_2 = Age (years)
X_3 = Marital Status (married=1; single=0)
X_4 = Educational Status (0=Non-formal, 1=primary, 2=secondary, 3=Tertiary)
X_5 = Household Size (adult equivalent)
X_6 = Farm size (ha)
*X_7 = Farm income (Naira)
X_8 = Membership of Cooperative (yes=1; no=0)
X_9= Amount of Loan Accessed (amount)

RESULTS AND DISCUSSIONS

Socio-Economic Characteristics of Farmers

In this study, a primary data collected from a total of 150 sampled farmers was used. From the total samples, results in Table 1 shows that 87.33% of the farmers were male which indicates farming is dominated by males in the study area. The marital status of the farmers shows majority (98%) of them were married; the age distribution of farmers shows majorities (64%) were within the 41–60 years age group and the mean age is 53.89 years. Furthermore, about 70% of the farmers had at least primary education as their highest level of education; also 58.67% of the farmers have a household size ranging between 5-8 persons and the average household size of farmers in the study area was 7.88 persons.

Table 1. Socio-Economic Characteristics of Farmers (n=150)

Characteristics	Frequency	Percentage
Age		
≤30	01	0.67
31-40	15	10.00
41-50	41	27.33
51-60	55	36.67
>60	38	25.33
Mean Age	53.89	
Gender		
Female	19	12.67
Male	131	87.33
Marital Status		
Single	03	02.00
Married	147	98.00
Educational Level		
No formal	37	24.67
Primary	53	35.34
Secondary	52	34.67
Tertiary	08	5.33
Household size		
<5	05	03.33
5-8	88	58.67
8-12	54	36.00
>12	03	02.00
Mean	7.88	
Farming Experience		
≤10	13	08.67
11-20	43	28.67
21-30	41	27.33
>30	53	35.33
Mean	26.97	
Farm Size (hectares)		
≤1	23	15.33
1.1-2	22	14.67
2.1-3	60	40.00
3.1-4	37	24.67
>4	08	05.33
Mean	2.356	
Annual Farm Income (Naira)		
≤300,000	06	04.00
301,000–500,000	14	09.33
501,000-700,000	22	14.67
701,000-900,000	21	14.00
> 900,000	87	58.00
Mean	1,224,162	
Member of Cooperative		
Yes	112	74.67
No	38	25.33
Credit Accessed		
No credit	48	32.00
≤50,000	18	12.00
51,000-100,000	37	24.67
101,000-200,000	28	18.67
>200,000	19	12.67
Mean	108,097.3	

Source: Field survey, 2020.

The finding of the study also figured out that more than 60% of the farmers had a minimum farming experience of 20 years with the mean 26.97 years; about 65% of the farmers cultivated more than 2 hectares of land with the average being 2.3 hectares in the study area.

In addition, the result showed that 74.67% of the sampled farmers belong to a cooperative society, implying the farmers belongs and enjoys the benefits of social groups; regarding the income from farming activities, 58% of the farmers were earning more than 900,000 naira annually with an average of 1,224,162 naira annually. Furthermore, the findings of the investigation showed that 32% of the examined farmers had no access to credit service, while about 46% accessed at least 50,000 naira credit with an average of 108,097.3 naira credit in the study area.

Lifestyle Factor of Farmers in the Study Area (n=150)

The result in Table 2 shows the level of lifestyle factors of farmers which is a summation of various lifestyle factors (diet, alcohol consumption, stress management, smoking etc.) in the investigation region. The result of the study revealed that 63.33% of the farmers practiced unhealthy lifestyles such as consuming unhealthy diet like junks, smoking etc. while only 4% of the farmers in the investigation region practiced healthy lifestyles which may be due to the fact that they are conscious of their health and monitor their lifestyle adequately.

Table 2. Lifestyle Factors Category of Farmers

Lifestyle Category	Frequency	Percentage
Unhealthy Lifestyle	95	63.33
Intermediate Lifestyle	49	32.67
Healthy Lifestyle	06	4.00

Source: Field survey, 2020.

Effect of Farm Income on the Lifestyle Factors of Farmers

Tobit model was utilized to analyze the effect of farm income on the lifestyle factors of farmers. Subsequently, results from the Tobit model utilizing information gotten from 150 sampled farmers (of which 95 were censored/having unhealthy lifestyle as per the model outcome) are presented in Table 3. The overall model is significant at 1% as indicated by the likelihood ratio test (Prob > $\chi 2$ = 0.0001). Also, the model estimate uncovered that out of the 9 explanatory variables, 5 variables were found to have a significant effect.

The coefficient of gender was negative and significant at 1%, this suggests the female farmers are more probable to practice healthy lifestyle than the male farmers. This is because females are more deterrent than men when it concerns their health and they don't leave their wellbeing to chances. This result is similar with the result of the studies carried out by [8] and [10] where they discovered that females have healthier lifestyles than the males.

The coefficient of age was positive and significant at 1%, this suggests that the older the farmers, the healthier their lifestyles when compared with the younger farmers. This may be due to the fact that younger people explore and take unnecessary risks (i.e. involve in vices) that affect their health and wellbeing. This result is in line with studies done by [2] and [8] where they established that unhealthy lifestyles are prevalent among youths and young adults.

The coefficient of educational level was negative and significant at 1%, thus suggesting that the lower the educational level of the farmers, the healthier their lifestyles and vice versa. This result is against a priori expectation, that the level of education should positively affect the lifestyle factors of farmers as education keeps them informed and well exposed. The result might also be true for educated farmers as some of them despite being exposed still involve in some unhealthy lifestyle factors such as eating of junks, excessive alcohol consumption etc.

The coefficient of farm size was negative and significant at the 10%, meaning that farm size exhibits a negative relationship with the lifestyle factors of a farmer. That is, farmers with smaller farm sizes tend to be healthier than those with larger sizes, and vice versa. This may be because farmers who have smaller farm sizes don't really require as much strength to work when compared with

farmers who had larger farm sizes who boost their strength through unhealthy lifestyles such as excessive drinking, smoking and substance use.

Also, *the coefficient of farm income* was positive and significant at 5%, this shows that farmers with higher farm income earnings were more likely to have healthier lifestyles than farmers having low farm income earnings. This is on the grounds that higher farm income encourages the farmer to be able to purchase and eat healthy diet; reduce their stress level as it is discovered that financial inadequacies increases stress among people. The result of this study conforms to the study carried out by [18] that reported income as a major determinant of lifestyle factors.

Table 3. Tobit Regression Result of Effect of Farm Income on the Lifestyle Factors of Farmers

Variables	Coefficient	t-value
Gender	-2.416842***	-4.12
Age	0.100137***	3.43
Marital status	-0.574283	-0.37
Highest educational level	-0.344335***	-2.72
Household size	0.028029	0.22
Farm size	-0.448770*	-1.88
Farm income	5.73e- 07**	2.31
Credit assessed	-5.52e- 07	-0.44
Member of cooperative	0.074025	0.16
Constant	2.605377	1.62
/Sigma	1.845996	

Source: Field survey, (2020).

***Significant at 1%, **significant at 5%, *significant at 10%.

Number of observation = 150; LR chi^2 (9) = 38.90; Prob> chi^2 = 0.0000;

Log likelihood = -197.32426 and Pseudo R^2 = 0.0897

Obs. summary: 55 right-censored observations at SLIQ>4

95 uncensored observations

0 right-censored observations

CONCLUSIONS

The study concluded that farm income affected the lifestyle factors of farmers in the study area. Other explanatory variables that affected lifestyle factors were gender, age, educational level and farm size. Howbeit, the study recommends that if farmers are to live and develop healthy lifestyles awareness and sensitization on health education should be given to them to understand the pros and cons to various lifestyle factors practiced in order to be more cautious regarding their health. Also, programmes and assistance that boost farm income should be initiated by government and non-governmental organizations to help farmers better their livelihood which in turn translate to having a healthy lifestyle.

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