ANALYSIS OF DEGREE OF ASSOCIATION BETWEEN BIRTH CONTROL PRACTICES AND FAMILY FARM LABOUR DECISION IN RURAL COMMUNITIES IN GWAGWALADA AREA COUNCIL, FEDERAL CAPITAL TERRITORY, NIGERIA

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ABSTRACT

This study analysed the degree of association between birth control practices and family farm labour decision in rural communities in Gwagwalada Area Council, FCT, Nigeria. The sampling technique was applied in multi-stage. Cross-sectional data were collected using structured questionnaire and were analyzed using descriptive statistics. The result shows that most of the farmers were women (52.5 percent) and 65 percent have family size of 6-10 members. It also reveals that 42.5 percent farmers had their primary education and 53.8 percent of the respondents have 31 year experience in farming. It reveals that 90 percent of farming families have knowledge of the different birth control practices and 58.8 percent know more of withdrawal method of birth control among others. It reveals that 46.9 percent mostly used withdrawal method. It reveals that 96 percent of the farming families accepted that family farm labour decision is based on number of family farm hands and 50 percent provided family farm hands. It also shows that family farm hands were used for planting (61.3 percent), weed management/fertilizer application (53.8 percent), and harvesting/handling (56.2 percent). The result reveals that there is positive and significant correlation (.301** p>0.01) between male and female condom and household size. It also reveals that there is negative and significant correlation (-.245* p>0.05) between withdrawal method and planting operation. It further reveals that there is positive and significant correlation (.245* p>0.05) between injectables and planting operation. The study recommended that the development of male contraceptives will increase the prevention of unintended pregnancies.

Keyword: Family farm, labour, birth control, rural community

1.0 INTRODUCTION

It is presumed that a larger household implies more farm hands in the rural farming communities. This may have been the reason for Nigeria's annual population growth rate of 3.3% and a total fertility rate of 5.5 per woman, ranking the highest in the world (National population commission - NPC, 2014). Nigerian women have approximately one more child than they would want and with this, the total fertility rate is 15% higher than what it would be if all unwanted birth were avoided (WHO, 2015). This also accounts for Nigeria being the most populous nation in Africa and the seventh most populous in the world with a population of approximately 170 million (Population Reference Bureau: PRB, 2012).

Beside the predictable oscillation in labour utilization, managing a farm well requires constantly being able to respond to changing weather conditions, pest and disease outbreak, and even mechanized farming. Although family farm could have adequate labour within the farm to cover up day to day operation, peak period of labour demand such as land preparation, sowing, transplanting, weeding, harvesting and threshing may necessitate getting more help (Salm and Planting, 2011). Children play vital role in crop production and processing and as such, they are the backbone of family farm labour and farm development. They form the majority of those employed in rural farms, children play a critical role in rural economies of both developed and developing countries. In most part of the developing world, children participate in crop production and livestock care; engage in off-farm activities such as trading and marketing of produce and, in addition, they carry out vital function in caring for their parent, older persons and the sick (Adekoya *et al*., 2011).

Birth control is an important part of an overall demographic and population policy of any country, it enables individuals and couples to anticipate and achieve the desired number of children (Ochako, 2015). There are Modern and Traditional method of birth control practices some of which are available in rural farming communities. These include Female and male sterilization (surgical method) example vasectomy for men and tubal ligation for women; Barrier method example male and female condoms; Hormonal method example oral combine hormonal drugs (prostinor), implant (Norplant) and injectable (depot medroxy); IUCD (intrauterine contraceptive device) example cu t380; Traditional method of birth control includes the calendar method (rhythm method) and withdrawal (coitus interruptus).

The prevalence of unwanted birth among farming rural communities in Nigeria is at disturbing rate and consequently causing low farm lalour productivity. In view of this, studies have shown that the fertility rate in some Nigerian rural communities is higher than that of the urban communities because rural family are known to show reluctance towards utilization of modern methods of birth control (Gaur, 2008). The justification for the increased rate of unwanted birth seems to be in twofold. On one hand, children play vital role in family farm labour, farm development and rural economies in developing countries and also carry out vital function in caring for their parent, older persons and the sick (Adekoya*et al*., 2011). On the other hand, the fear of both primary and secondary infertility has been documented as one of the causes of reluctance towards the use of birth control methods (Ochako, 2015). The world health organization(WHO) defines primary infertility as the inability of a couple of reproductive age group who have never been pregnant to achieve conception after one year of regular unprotected vaginal intercourse. Secondary infertility is the inability to become pregnant after previously giving birth to a baby (WHO, 2015).

$$r = \frac{\Sigma(x - \bar{x})(y - \bar{y})}{\sqrt{[\Sigma(x - \bar{x})^2 (y - \bar{y})^2]}} \quad 2.1$$

which can be presented to be equal to:

$$r = \frac{\Sigma xy - \bar{n}\bar{x}\bar{y}}{(n-1)SD\,(x)SD(y)} \quad 2.2$$

Significance test

To test whether the association is merely apparent, and might have arisen by chance use the *t* test in the following calculation:

$$t = r\sqrt{\frac{n-2}{1-r^2}} \quad 2.3$$

n – 2 = degrees of freedom.
r = correlation coefficient

3.0 Results and Discussion

3.1 Demographic Information of Head of Farming Families

Table 1 shows the distribution of demographic information of farming families. The result shows that 52.5 percent were women and most of the farmers were within the age range of 31-40 years (48.8 percent). The results reveal that 65 percent of the respondents have family size of 6-10 members. It also reveals that 42.5 percent farmers had their primary education and 53.8 percent of the respondents have 31 years experienced in farming.

Table 1: Demographic Information of Head of Farming Families

Variables	Frequency	Percentage
Gender		
Male	38	47.5
Female	42	52.5
Total	80	100
Age		
21 – 30	15	18.8
31 – 40	39	48.8
41 and above	26	32.5
Total	80	100
Household size		
1 – 5	25	31.3
6 – 10	52	65.0
11 – above	3	3.8
Total	80	100

Level of Education		
No formal education	31	38.8
Primary school	34	42.5
Secondary school	13	16.3
Tertiary school	2	2.5
Total	80	100
Farming experience		
1 – 10 YRS	3	3.8
11 – 20 YRS	8	10.0
21 – 30 YRS	26	32.5
31 and above	43	53.8
Total	80	100

Source: Field survey, 2021

3.2. Birth Control Practices

This results in Table 2 and 3 reveal that 90 percent of farming families have knowledge of the different birth control practices and 58.8 percent know more of withdrawal method for birth control among others. The result is in line with (Juma, 2015) who stated that rural dwellers have a low perception regarding modern birth control services offered by community health workers. The result in Table 4 reveals that 46.9 percent mostly used withdrawal method. This is in line with (Ochako, 2015) that the fear of both primary and secondary infertility causes reluctance towards the use of modern birth control.

Table 2: The Farming Families Knowledge of Birth Control Practices

Usage of Birth Control Practice	Frequency	Percent
Yes	72	90.0
No	8	10.0
Total	80	100

Source: Field survey, 2021 .

Table 3: The Farming Families knowledge of Types of Birth Control Practices

Birth Control Practices	Frequency	Percent
Male or female condoms		
Yes	17	21.2
No	63	78.8
Oral hormonal pills		
Yes	23	28.7
No	57	71.3
Withdrawal method		
Yes	47	58.8
No	33	41.2
Injectables		
Yes	17	21.2
No	63	78.8
Implants		
Yes	3	3.8
No	77	96.2
Calendar (rhythm method)		
Yes	12	15.0
No	68	85.0

Source: Field survey, 2021 .

Table 4: Farming Families Frequency of Usage of the Birth Control Practices

Birth Control Practices	Reponses								Mean
	Mostly used		Sometimes used		Fairly used		Never used		
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	
Male or female condoms	3	3.8	13	16.3	4	5.0	60	75.0	
Oral hormonal pills	7	8.8	16	20.0	1	1.3	56	70.0	
Withdrawal method	38	46.9	8	9.9	2	2.5	32	40.7	
Injectables	16	19.8	1	1.2	1	1.2	62	77.8	
Implants	0	0	0	0	0	0	80	100	
Calendar (rhythm method)	2	2..5	4	5.0	3	3.8	71	88.8	

Source: Field Survey, 2021

3.3 Family Farm Labour Decision

The results in Tables 5 and 6 reveal that 96 percent of the farming families accepted that family farm labour decision is based on number of family farm hands and 50 percent provided family farmhands by farming families. The result in Table 7, the farming families decision on type of labour provided per farm operations, shows that family farm hands were used for planting (61.3 percent), weed management/fertilizer application (53.8 percent), and harvesting/handling (56.2 percent).

Table 5: Family Farm Labour Decision is based on Number of Family Farm Hands

Farm labour is based on family size	Frequency	Percent
Yes	77	96.3
No	3	3.8
Total	80	100

Source: Field survey, 2021

Table 6: The Farming Families Decision on Type of Labour Provided

Provision of Labour	Frequency	Percent
Family farm hands	40	50.0
Hired labour	10	12.5
Family farm hands and Hired labour	30	37.5
Total	80	100

Source: Field survey, 2021

Table 7: The Farming Families Decision on Type of Labour Provided per Farm Operations

Labourtypes per Farm operation	Frequency	Percent
Land clearing		
Family farm hands	3	3.8
Hired labour	57	71.2
Family farm hands and Hired labour	20	25.0
Harrowing/ridging/plowing		
Family farm hands	5	6.3
Hired labour	45	56.2
Family farm hands and Hired labour	30	37.5
Planting		
Family farm hands	49	61.3
Hired labour	21	26.2
Family farm hands and Hired labour	10	12.5

Weed management/Fertilizer application		
Family farm hands	43	53.8
Hired labour	17	21.2
Family farm hands and Hired labour	20	25.0
Harvesting/handling		
Family farm hands	45	56.2
Hired labour	20	25.0
Family farm hands and Hired labour	15	18.8

Source: Field survey, 2021

3.4: Degree of Association between Birth Control Practices and Family Farm Labour Decision

Table 8 shows the degree of association between frequency of use of birth control practices and family farm labour decision. The diagonal 1 indicates a perfectly positive correlation and (+ve) or negative (-ve) signs tells the strength of the linear relationship between variables. The result reveals that there is significant positive correlation (.301**) at 0.01 level between male and female condom and household size. It also reveals that there is significant negative correlation (-.245*) at 0.05 level between withdrawal method and planting operation. It further reveals that there is significant positive correlation (.245*) at 0.05 level between injectables and planting operation. The result implies that large household size may likely enhance the supply of farm hands on the farm and also provide the evidence of increasing unwanted birth. This is in line with (Salm and Planting, 2011) which states that family farm labour may necessitate getting more help, hence supporting productive capacities of the farmers in the selected areas of farm operations.

Table 8: The Degree of Association between Frequency of Birth Control Practices Usage and Family Farm Labour Decision

Variables	HHS	MFC	OHP	WM	INJ	IMPT	CLND	PLTN	WDM/ FERA	HVST/HAND
HHS	1									
MFC	.301**	1								
OHP	-.175	-.239*	1							
WM	.009	.299**	-.382**	1						
INJ	-.020	-.242*	.219	-.523**	1					
IMPT	b	b	b	b	b	b				
CLND	-.139	-.179	.299**	-.102	-.174	b	1			
PLTN	-.066	-.088	.217	-.245*	.245*	b	.064	1		
WDM/FERA	-.072	-.153	.192	.027	-.180	b	.134	-.115	1	
HVST/HAND	-.030	-.002	.103	-.187	.202	b	.217	.011	.010	1

**Correlation is significant at the 0.01 level (2 tailed) and *Correlation is significant at the 0.05 level (2 tailed); b cannot be computed because at least one of the variables is constant. HHS: Household size; MFC: Male and female condom; OHP: Oral hormonal pills; WM: Withdrawal method; INJ: Injectables; IMPT: Implants; CLND: Calendar; PLTN: Planting; WDM/FERTA: Weed Management/Fertilizer application; HVST/HAND: Harvesting/Handling

4.0 Conclusion

There is positive and negative degree of association between the birth control practices and family farm labour decision. The labour decision and birth control practices that lead to unintended birth can be addressed through introduction of labour saving technology and awareness programs on the effect of birth control to family and the society at large. It is recommended that the development of male contraceptives will increase the prevention of unintended pregnancies. The farmers should be taught and encouraged to discuss the ways of applying various birth control methods as this would enhance its use.

REFERENCES

logbonse, E.B. (2011). *Adoption and Diffusion of Innovations*In; Agricultural Extension in Nigeria, A Publication of the Agricultural Extension Society of Nigeria (AESON) c/o Agricultural and Rural Management Training Institute (ARMTI) Ilorin.

Aidi, H.O., Emecheta, C. and Ngwudiobu, I.M. (2016).Population Dynamics and Economic Growth in Nigeria.*Journal of Economics and Sustainable Development*.**7**:15-23.

Gaur, D.R., Kumar, G.M. and Meenu, G. (2008). Contraceptive practices and related factors among females in predominantly rural Muslim area of North india. Internet J world health soc polities 2008.

Gujarat D. N. (2004), *Basic econometrics (4th ed.)*. India: Tata McGraw-Hill

Joseph, O., Simeon, A. O., Samuel, O., and John, A. (2015).An Empirical Investigation of Malthusian Population Theory in Nigeria.*Journal of Emerging Trends in Economics and Management Sciences*.**6**(8):367-375.

Juma, P.A., Mutomba, N. and Mukiira, C. (2015). Women attitude towards receiving family planning services from community health workers in rural Western Kenya. *African Health Science*.

National population commission (NPC) [Nigerian] and ICF international. (2014) Nigeria demographic and health survey 2013. Abuja, Nigeria, and Rockville Maryland, USA: NPC and ICF international; 2014.

National Population Commission [Nigeria] and ICF Macro. Nigeria Demographic and Health Survey, 2013. Calverton: National Population Commission and ICF Macro; 2014.

Ochako, R., Mbondo, M., Aloo, S., kaimenyi, S., Thomson, R. and Thermermann, M. (2015).Barriers to modern contraceptive methods uptake among young women in Kenya: A qualitative study BMC public health 2015.

PRB. (2012). World population data sheet, Population Reference Bureau Available from: http/www prb.org/pdf12/2012-population-data-sheet_eng pdf.

Salm, M. and Planting, M. (2011). Module 5: labour and energy in small scale farming" in: *learning agriculture:* insight from sustainable small scale farming, ILEIA: Netherlands.

World Health Organization (2015).*Family planning/contraception*. World health organization: Geneva, Switzerland.