Journal of Nutrition and Health Sciences
Volume 3 | Issue 1
ISSN: 2393-9060

Research Article Open Access

Assessment of Nutritional Knowledge of HIV Positive Adult Patients of Obafemi Awolowo University Teaching Hospitals Complex Ile - Ife, Nigeria

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Citation: Fadeiye EO, Adegbenro CA, Olumakaiye MF (2016) Assessment of Nutritional Knowledge of HIV Positive Adult Patients of Obafemi Awolowo University Teaching Hospitals Complex Ile - Ife, Nigeria. J Nutr Health Sci 3(1): 102. doi: 10.15744/2393-9060.3.102

Received Date: June 30, 2015 **Accepted Date:** February 23, 2016 **Published Date:** February 25, 2016

Abstract

The study examined the content of nutritional counseling package in the Institute of Human Virology, Nigeria (IHVN) Clinic of Obafemi Awolowo University Teaching Hospitals Complex Ile-Ife, assessed the nutritional knowledge and factors influencing nutritional knowledge of HIV positive adults receiving care at the clinic. The study employed a cross-sectional descriptive design and 156 respondents were purposively selected from IHVN Clinic, based on their HIV status and exposure to nutritional counselling. They were interviewed using pre-tested semi structured questionnaires which elicited information on their demographic characteristics and their nutritional knowledge. Information about the nutrition counselling provided by the clinic was obtained through participatory observation during clinic days. Data analyses were done using SPSS (version 22). Descriptive analysis was carried out and data were presented in percentages/proportions, means and standard deviations, while chi-square and logistic regression analyses were used for inferential statistics at 0.05% level of confidence. The results showed that the content of the nutritional counselling in the clinic was adequate and 9.6% of the respondents had poor nutritional knowledge, 76.9% of the respondents had fair nutritional knowledge while 13.5% had good nutritional knowledge. Age (χ^2=17.826, p=0.023); education (χ^2=25.80, p=0.001) and income (χ^2=16.985, p=0.009) were significantly associated with nutritional knowledge. Income was the only significant determinant and those who earned 20,000–40,000 naira (OR=5.612, 95% CI=1.323-23.808, p=0.019) and 40,000–60,000 naira (OR=0.197, 95% CI=0.045-0.864, p=0.031) naira were more likely to have nutritional knowledge (OR=0.19, 95% CI=0.05-0.82, p=0.062). The odds of patients that has Post-secondary education with Nutritional knowledge was 3.195 times more than the odds of patients with No Formal education. It is concluded that though the content of the nutritional counselling in the clinic was adequate, the nutritional knowledge of most of the patients attending the clinic was fair, about half had poor nutritional status and income was the only significant determinant.

Keywords: Nutritional Knowledge; Nutritional counseling; HIV Positive Adult

Introduction

The first case of Human Immunodeficiency Virus (HIV) infection was recognised in a male subject in 1981 in USA, since then the HIV infection rate has reached pandemic proportions in many countries worldwide [1]. It was first reported officially in Nigeria in 1986 and the rate of spread has increased significantly over the years. The rate was 1.8% in 1991, but later increased to 4.5% in 1996 and 5.8% in 2001. However, gradual decline was observed with the 2003 survey result of 5% and 2005 data of 4.4% [2]. According to the Nigeria Agency for the Control of Acquired Immune Deficiency Syndrome (NACA) Global AIDS Response Country Progress Report [3], submitted to UNAIDS, estimated number of people living with HIV (PLWHIV) was 3.5 million as at December 2011 representing national median HIV prevalence of 4.1% which shows decline from the 2008 report of 4.6%. The National HIV prevalence rate as at 2012 is 3.4% [2]. Similarly, based on projected HIV estimates of 2013, about 3,229,757 people now live with HIV while it is estimated that 220,394 new HIV infections occurred in 2013. A total of 210,031 died from AIDS related cases. It is also estimated that a total of 1,476,741 (19.8%) required anti-retroviral drugs (ARV) in 2013which shows decline from that of 34.4% and 29.8% of 2009 and 2011 respectively [4]. Percentage of HIV-positive pregnant women who receive antiretroviral to reduce the risk of mother-to-child transmission was estimated to be 21.6% in 2009, decline to 15.9% in 2011 [3] and increased to 30.1% in 2013 [4]. Mother-to-child transmission of HIV was estimated to be 19.8% and 27.3% in 2011 and 2014 respectively [3,4].

Nutrition has been linked worldwide to both the transmission of HIV and poor outcomes related to HIV disease. The HIV destroys the immune system and lowers the body's ability to resist diseases and increases vulnerability to frequent opportunistic infections. It increases the body's use of energy and also interferes with food intake and the way the body absorbs and uses nutrients [5]. If the body's increased energy and nutrients needs are not met, they (PLWHIV) may lose weight and become undernourished, which makes HIV progress more quickly to AIDS.

Nutritional counselling provides education and strategies that will help patients make healthy eating choices for a healthy lifestyle. The goal is to provide the patient with information and practical suggestion needed to achieve nutritional goals and maintain them [6]. Nutritional counselling as an intervention to improve health outcomes for HIV-positive respondents, have shown that nutritional counselling about protein dietary intake improved health and nutritional status of respondents allowing them to lead longer and better quality lives especially in the absence of anti-retroviral therapy [7]. Nutritional counselling may include education on various topics, including healthy eating, achieving or maintaining a healthy body weight, managing lipid abnormalities and lipodystrophy, managing dietary complications related to antiretroviral treatment, managing symptoms that may affect food intake, appropriate use of herbal and/or nutritional supplements, the role of exercise, food safety (important for preventing opportunistic infections) [8].

Materials and Method

Study Area

The study location for this research was Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife Osun State Nigeria. The Hospital is located about 50 kilometers from Osogbo the State capital. The Hospital provides effective quality health care delivery to all categories of health care consumers and also serves as the Teaching Hospital for the Faculty of Health Science of the Famous Obafemi Awolowo University Ile-Ife, Nigeria.

The hospital has Institute of Human Virology, Nigeria (IHVN) clinic, which is a care unit for PLWHA located at the phase III area. It provides care, and support for PLWHA throughout patient services which include both the clinical and nutritional advice.

Study Design

A cross-sectional descriptive survey of HIV positive adults patients aged 18 years and above attending the IHVN Clinic of OAUTHC Ile-Ife.

Study Population

The study population comprised of HIV positive adults aged 18 years and above, registered for medical care at IHVN Clinic.

Sample Size Determination

The Kish-Leslie formula: $n = \frac{z^2 pq}{d^2}$

at Prevalence of 0.103 (prevalence of under nutrition among adult HIV in sub-Saharan Africa 10.3%) [9,10] was used to obtain the sample size of 142 and 10% non-response was added to make it total 156 sample size.

Sampling Method

A purposive sampling method was used based on the HIV status of the respondents and their exposure to nutritional counselling. All adults that attended the Clinic during the study period who fulfilled the inclusion criteria were recruited consecutively until the desired sample was attained. Written informed consent was obtained and clients who agreed to participate in the study were interviewed using a semi structured questionnaire. Those interviewed were given a special code to prevent them from been interviewed twice in their subsequent clinic.

Data collection and analysis

An open ended questionnaire which contained the Academy for Educational Development statement was used to collect information about the nutritional knowledge and was scored as either correct or incorrect. Each correct response to the statement was given a score of 1 and the total scores were computed. The mean and standard deviation (SD) of the scores were determined and was used to categorize into; good, fair and poor knowledge using the formula; Mean (SD). Where Mean+SD = good knowledge and Mean–SD = poor knowledge. The scores between the good and poor knowledge were regarded as fair knowledge [11,12].

Study Period

July 2014 to January 2015

Result

The result of socio-economic characteristics of the respondentsshows that 80.8% were female, mean age was 38.39±10.40 years, 78.2% were married and were Christians, 81.4% resides in urban area and 71.2% were of household size ≤5. It also shows that 66.0% percent of the respondents were traders and 67.3% earn less than 20,000 naira monthly while 7.7% earn more than 60,000 naira (Table 1).

Socio-demographic Characteristics	Frequency	Percentage
Age Group (Years)		
20-29	16	10.3
30-39	90	57.7
40-49	20	12.8
50-59	15	9.6
≥60	15	9.6
Sex		
Male	30	19.2
Female	126	80.8
Ethnicity		
Yoruba	137	87.8
Igbo	14	9.0
Others	5	3.2
Religion		
Christianity	122	78.2
Islam	34	21.8
Residential Area		
Rural	29	18.6
Urban	127	81.4
Marital Status		
Single	20	12.8
Married	122	78.2
Divorce	2	1.3
Separated	2	1.3
Widowed	10	6.4
Household Size		
≤5	111	71.2
6-10	35	22.4
≥10	10	6.4
Education		
No formal education	13	8.3
Primary	39	25.0
Secondary	61	39.1
Post-Secondary	20	12.8
Tertiary Education	23	14.8
Occupation		
Jobless	2	1.3
Artisan	27	17.3
Trading	103	66.0
NGO Staff	8	5.1
Civil Servant	16	10.3
Monthly Income (Naira)		
<20,000	105	67.3
20,000–40,000	25	16.0
40,000–60,000	14	9.0
>60,000	12	7.7

Table 1: Socio-demographic Characteristics of respondents (N=156)

Nutritional counselling

The content of nutritional counselling provided by the clinic was compared with Academy for Educational Development [5] Nutrition Care for PLWHA: Training Manual for Community and Home-Based Care Providers. The result shows that all the AED listed points were mentioned during nutritional counseling at the clinic (Table 2).

Academy for Educational Development Statement	Clinic Nutrition Counselling
Eating thrice daily is essential as skipping of meal is not good.	**
Self-preparation of food is safer to buying from food sellers.	**
Food should always be accessible for a healthy and active life.	**
Nutrient dense food is of great benefit to HIV patients.	**
Diverse diet is of great benefit to HIV patients.	**
It is essential to seek periodic nutritional assessment.	**
Multivitamins and mineral supplements should be put into consideration by HIV patients.	**
Inappropriate weight loss is harmful and undesirable.	**
Frequent meal consumption will increase energy intake.	**
Alcohol and smoking is harmful.	**
Loss of appetite as side effect of some drugs should not prevent eating.	**
Safe food handling and maintenance of personal hygiene is of great benefit.	**
Taking of plenty fluid and fiber is important during incidence of diarrhoea.	**

Key: ** = Mentioned in the Clinic

Table 2: Assessment of the Content of Nutritional Counselling Provided by the Clinic

Nutritional Knowledge of respondents

Table 3 shows nutritional knowledge of the respondents based on their response to Academy for Educational Development Statement. The result of the nutritional knowledge score of the respondents shows that 9.6% of the respondents had poor knowledge, 76.9% had fair knowledge and 13.5% had good knowledge (Table 4)

Academy for Educational Development Statement	Incorrect Freq.(%)	Correct Freq.(%)
Eating thrice daily is essential as skipping of meal is not good.	23(14.7)	133(85.3)
Self-preparation of food is safer to buying from food sellers.	20(12.8)	136(87.2)
Food should always be accessible for a healthy and active life.	18(11.5)	138(88.5)
Nutrient dense food is of great benefit to HIV patients.	11(7.1)	145(92.9)
Diverse diet is of great benefit to HIV patients.	26(16.7)	130(83.3)
It is essential to seek periodic nutritional assessment.	24(15.4)	132(84.6)
Multivitamins and mineral supplements should be put into consideration by HIV patients.	27(17.3)	129(82.7)
Inappropriate weight loss is harmful and undesirable.	20(12.8)	136(87.2)
Frequent meal consumption will increase energy intake.	82(52.6)	74(47.4)
Alcohol and smoking is harmful.	11(7.1)	145(92.9)
Loss of appetite as side effect of some drugs should not prevent eating.	38(24.4)	118(75.6)
Safe food handling and maintenance of personal hygiene is of great benefit.	10(6.4)	146(93.6)
Taking of plenty fluid and fiber is important during incidence of diarrhoea.	76(48.7)	80(51.3)

N=156

Table 3: Nutritional Knowledge of the Respondents

Nutritional Knowledge	Frequency	Percentage
Poor	21	9.6
Fair	120	76.9
Good	15	13.5
Total	156	100.0

Table 4: Nutritional Knowledge Scores of the Respondents

Factors Influencing Nutritional knowledge of Respondents

Age (χ^2=17.826, p=0.023), Education (χ^2=25.800, p=0.001) and Income (χ^2=16.985, p=0.009) were significantly associated with Nutritional knowledge (Table 5). Further analysis using logistic regression show that income (20,000–40,000naira) (OR=5.612, 95% CI=1.323-23.808, p=0.019)and (40,000–60,000 naira) (OR=0.197, 95% CI=0.045-0.864, p=0.031) has a significant association with Nutritional knowledge and that the odds of patients that hasPost-secondary education with Nutritional knowledge was 3.195 times more than the odds of patients with No Formal education. The result further shows that the odds of patients age group 20-29 years with Nutritional knowledge was 0.181 times lesser than the odds of patients in age group ≥60 (Table 6).

Socio-demographic Characteristics	Nutritional Knowledge			χ^2	P-value
	Low	Medium	High		
Age Group (Years)					
20-29	5(33.3)	11(9.1)	0(0.0)		
30-39	7(46.7)	73(60.3)	10(50.0)	17.826	0.023*
40-49	2(13.3)	12(9.9)	6(30.0)		
50-59	0(0.0)	13(10.8)	2(10.0)		
≥60	1(6.7)	12(9.9)	2(10.0)		
Sex					
Male	2(13.3)	21(17.4)	7(35.0)	3.812	0.147
Female	13(86.7)	100(82.6)	13(65.0)		
Ethnicity					
Yoruba	12(80.0)	105(86.8)	20(100.0)		
Igbo	3(20.0)	11(9.1)	0(0.0)	5.732	0.220
Others	0(0.0)	5(4.1)	0(0.0)		
Religion					
Christianity	10(66.7)	97(80.2)	15(75.0)	1.565	0.457
Islam	5(33.3)	24(19.8)	5(25.0)		
Education					
No formal edu.	1(6.7)	10(8.3)	2(10.0)		
Primary	4(26.7)	26(21.5)	9(45.0)		
Secondary	(0.0)	55(45.5)	6(30.0)	25.800	0.001**
Post-Secondary	3(20.0)	14(11.6)	3(15.0)		
Tertiary Educ.	7(46.7)	16(13.2)	0(0.0)		
Occupation					
Unemployed	0(0.0)	2(01.7)	0(0.0)		
Artisan	0(0.0)	23(19.0)	4(20.0)		
Trading	12(80.0)	75(62.0)	16(80.0)	10.577	0.227
Private sector	0(0.0)	8(6.6)	0(0.0)		
Civil servant	3(20.0)	13(10.7)	0(0.0)		
Monthly Income (Naira)					
<20,000	6(40.0)	89(73.6)	10(50.0)		
20,000-40,000	3(20.0)	15(12.4)	7(35.0)	16.985	0.009**
40,000-60,000	3(20.0)	8(6.6)	3(15.0)		
>60,000	3(20.0)	9(7.4)	0(0.0)		

**p < 0.001, *p < 0.05

Table 5: Factors Influencing Nutritional Knowledge of Respondents

Discussion

The study revealed that the mean age of the respondents was 38.39±10.40 years. This is similar to the mean age of 37.2±8.55 reported in a study conducted in Tanzania among HIV patients [9]. The content of the nutritional counselling in the clinic was adequate when compared with guideline for nutritional care for PLWHA [5]. Majority of the respondents had fair nutritional knowledge while few had good knowledge. This is similar to the study conducted in Jos, Nigeria among HIV patients in which their nutritional knowledge was fairly good [10].

Variables	95% CI	Odd Ratio	P-Value
Age Group (Years)			
20-29	0.013-2.456	0.181	0.199
30-39	0.160-8.417	1.161	0.882
40-49	0.237-24.949	2.431	0.455
50-59	0.001-0.010	0.563	0.999
≥60 (RC)		1.00	
Education			
Primary	0.335-19.582	2.561	0.365
Secondary	0.312-19.535	2.468	0.392
Post-Secondary	0.297-34.435	3.195	0.338
Tertiary Education	0.014-3.357	0.219	0.276
No formal education (RC)		1.00	
Occupation			
Jobless	0.01-1.89	0.39	1.000
Artisan	0.01-2.00	0.01	0.999
Trading	0.01-2.00	0.01	0.999
Private sector	0.01-1.89	0.47	1.000
Civil Servant (RC)		1.00	
Monthly Income (Naira)			
20,000–40,000	1.323-23.808	5.612	0.019
40,000–60,000	0.045-0.864	0.197	0.031
>60,000	0.001-0.010	0.001	0.998
<20,000 (RC)		1.00	

RC = Reference Category

Table 6: Logistic Regression Relating Socio-economic Characteristics with Dietary Diversity

Conclusion

The study observed that though content of the nutritional counselling in the clinic was adequate, the nutritional knowledge of most patients attending the clinic was fair. Income was the only socio-economic characteristic that was significantly associated with nutritional knowledge having controlled for educational and occupational status.

Acknowledgement

Many thanks to the patients of Institute for Human Virology of Nigeria Clinic (IHVN), Management of Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria and Department of Community Health, Obafemi Awolowo University Ile- Ife, for supports and granting of Ethical clearance to conduct the study.

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