

PATTERNS AND FREQUENCY OF FRUITS AND VEGETABLES CONSUMPTION AMONG THE RESIDENTS OF SOMOLU LGA OF LAGOS STATE, NIGERIA

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ABSTRACT

Poor consumption of fruits and vegetables have been identified as the sixth major risk factor for global mortality. This is because fruits and vegetables have been found to have protective effect against several types of cancers and cardiac diseases. The study was to determine the patterns and frequency of consumption of fruits and vegetables among adult resident in Somolu local government area of Lagos state Nigeria. A cross-sectional survey was adopted with a sample size of 1350 adults conveniently sampled based on their willingness to participate. A validated structured and pre-tested questionnaire was used for data collection on the demographic characteristics of the respondents, frequency of consumption of vegetables and fruits as well as factors that determines their choices. Data was presented using descriptive statistics and analyzed using inferential statistics.

The result showed that about half (46.7%) of the respondents were in the age range of 39-49 years with (63.2%) married and (31.6%) had M.Sc. and above. Common fruits and vegetables consumed by the respondent include bananas (20.5%), pawpaw (15.2%), oranges (18.5%), okro (16.9%), garden eggs (14%) and tomatoes (13%). About 53% of the respondents consumed vegetables daily, while only 10% utilized fruits daily. Factors like availability (35.8%) taste (15.9%) and attractiveness (14.3%) were factors that determined their choices. No significant difference was observed in the consumption pattern of the male and female respondent. Consumption pattern of fruits was considerably low among adults in Somolu local government area of Lagos State while that of vegetables was fairly adequate.

Keywords: *Frequency, Consumption, Fruits and Vegetables.*

INTRODUCTION

Scientifically fruits have protective effects against several types of cancers and cardiovascular diseases because of their phytochemical Contents [Hu, 2003; Kpodo, Mensah, & Dzah, 2014]. Fruits and vegetables are rich sources of vitamins and minerals, dietary fibre needed for proper functioning of the human body. Fruits and vegetables are important components of a healthy diet and their consumption help in preventing a lot of diseases.

Low consumption of fruits and vegetables has been recognized as the sixth major risk factor for mortality globally [WHO, 2013; Ruta, 2011; Lock, Pomerleau, Causer, Altamann, & Mckee, 2005]. WHO estimated that approximately 5.2 million deaths worldwide are attributable to low fruit and vegetable consumption [WHO, 2013], The low consumption of fruits and vegetables globally (below the requirement) is said to be responsible for the increased incidence of cardiovascular diseases and cancers; the two leading causes of death worldwide [Layade & Rekhy,2014].According to WHO (2005), low consumption of fruits and vegetables accounts for about 19% gastro- intestinal cancers, about 31% of ischemic heart disease and 11% of stroke. It estimated that about 2.7 million deaths recorded yearly arise from these chronic diseases. This implied that 2.7million lives could have been saved with adequate consumption of fruits and vegetables [WHO, 2005], recommended intake was put at a minimum of 400g for fruits and vegetables per day for the prevention of chronic heart diseases, cancer, diabetes and obesity. There is also increasing evidence that consumption of fruits and vegetables decreases the risk of several other chronic diseases [Adeoye, Pomerleau, Causer, Altamann, & Mckee, 2009; British Dietetic Association, 2011].

Non communicable diseases are also on the increase largely due to Consumers' lifestyle changes and intake of high calories dense foods. Studies have shown that the high prevalence of micronutrient deficiencies in developing countries has been attributed to the low knowledge of the nutritional value of these fruits and vegetables as well as their low consumption [Banwat, Lar, Daboer, Audu, & Lassa 2012; Hart, Azubike, & Barimala,2005;WHO, 2013; Justin et al 2009] despite their relative availability and cultural acceptance. In another study conducted by Ibrahim, [2011] shows that fruits and vegetables consumption globally among adults from most of these developing countries were mainly low. According to the findings, 83% of total respondents consumed less than the minimum servings of fruits and vegetables daily.

Generally, both knowledge and attitude of adults to fruit and vegetable intake has been noted globally to be below nutritionally recommended and acceptable limits [CDCP 2011]. Factors such as demographic characteristics, individuals' perception of the importance of these food items, availability, taste, habit as well as nutritional knowledge have been identified as factors that influence fruits and vegetables consumption (Ruta, 2011; Hart, et al.,2005; Ibrahim, 2011; Khairunnisa, et al., 2013).

This study therefore aimed at assessing the frequency of vegetable and fruits consumption, consumption pattern as well as the determinant factors for the choice of vegetables and fruits consumed by the adults' residents in Somolu Local Government Area of Lagos State.

MATERIALS AND METHODS

The study was conducted in Somolu Local Government Area of Lagos state, Nigeria. The study was a cross-sectional and descriptive in design. There are 18 Electoral wards in Somolu LGA. The population of the study consisted of all adults resident in Somolu local government area. The local government area has an estimated population of 1, 328, 530, Census [FRN, 2006]. Multi-stage

sampling technique was employed in selecting the three wards for the study. From the 18 Electoral wards in the LGA, 3 electoral wards (Wards 5, 11 and 17) were randomly selected. Household listing was done in the 3 electoral wards and from the listing, 1350 adult (25 years and above) respondents were systematically selected across the wards. Willingness and voluntary participation of the respondent were sought and they were assured of confidentiality.

Data Collection

A validated and pretested structured questionnaire was used to collect information from the respondents. This was pretested by administering the questionnaire to twenty-five (25) adults who were part of the population but not of the respondents used in the study. The data collected was analyzed using Cronbach alpha; a reliability coefficient of 0.83 was obtained. The instrument was divided into two sections. Section A was on demographic characteristics while section B of the questionnaire was used to collect information on fruits and vegetables consumption pattern, most frequently consumed fruits and vegetable as well as determinants of the choice of fruits and vegetables. Eight trained research assistants helped in data collection.

Data Analysis

Data collected was analyzed and presented in descriptive statistics such as frequency and percentages. The null hypothesis was tested at 0.05 level of significance using the t-test to determine the difference in fruits consumption between the male and female respondents.

RESULTS

Table I shows that 592(43.9%) male respondents and 758(56.1%) female respondents, out of which 205(15.4%) were singles, 853 (63.4%) married, 134(9.9%) widowed and 156 (11.6%) separated. The table also showed that 426(31.6%) were University/Polytechnic graduates, 302(22.4%) were Post graduates 588 (43.6%) were Nigeria Certificate in Education/ Ordinary Diploma holders and 34 (2.5%) were Senior School Certificate Examination holders participated in the study. The study also shows that 299(22.1 %) were between 25-39 year, 628 (46.5%) were between 40-49 years and 423 (31.3%) were 50 years and above.

Table I: Demographic Characteristics of the Respondents

Variable	Frequency	Percentages (%)
Sex		
Male	592	43.9
Female	758	56.1
Total	1350	100
Age		
25-39	299	22.1
40-49	628	46.5
>50	423	31.3
Total	1350	100
Marital Status		
Married	853	63.2
Single	207	15.3
Widowed	134	9.9

Separated	156	11.6
Total	1350	100
Education Qualification		
M.Sc.& Above	302	22.4
B.Sc./HND	426	31.6
NCE/OND	588	43.6
SSCE	34	2.5
Total	1350	100

NCE=Nigerian Certificate in Education; SSCE=Senior Secondary Certificate Examination; M.Sc=Master of Science; HND=Higher National Diploma; OND=Ordinary National Diploma; B.Sc=Bachelor of Science

Table II shows frequency of consumption of different fruits and vegetables among, male and female respondents. Banana (22.5%), oranges (18.5%) were the most frequently consumed fruits, followed by pawpaw (15.3%), Okro (17%), garden egg (14%), pumpkin leaf (12.6%) and tomatoes (13%) were the most frequently consumed vegetables followed by scent leaf (12.7%) Spinach (6.3%) and carrot (4.0%) were the least consumed.

Table II Frequency of Consumption of different Fruits and Vegetables among the Male and Female Respondents

Variables Types of fruits	Males		Females		Bothe sexes	
	Frequency	%	Frequency	%	Frequency	%
Banana	180	12.3	124	9.2	304	22.5
Orange	95	7.0	155	11.4	250	18.5
Pawpaw	55	4.0	151	11.1	206	15.2
Apple	71	5.2	112	8.2	183	13.5
Mango	65	5.0	49	3.6	114	8.4
Pear	39	2.9	82	6.1	121	8.9
Watermelon	57	4.2	36	2.6	93	6.8
Pineapple	30	2.2	49	3.6	79	5.8
Total	592	43.9	758	56.1	1350	100
Types of vegetables						
Garden egg	121	9.0	67	5.0	188	14
Tomatoes	73	5.4	102	8.0	175	13
Pumpkin leaf	64	4.7	107	8.0	171	12.6
Scent leaf	61	4.5	111	8.2	172	12.7
Green leaf	93	6.9	61	4.5	154	11.4
Water leaf	52	3.8	69	5.1	121	8.9
Spinach	31	2.2	55	4.0	86	6.3
Carrots	20	1.5	34	2.5	54	4.0
Okro	77	5.7	152	11.2	229	16.9
Total	592	44.0	758	56.0	1350	100

Table III shows consumption pattern of fruits and vegetables by the respondents. All the respondents consumed vegetables at various times but only 50.2% consumed vegetables once daily, 31.1% consumed 2-3 times weekly, while 11.5% consumed 4-5times weekly, 4.6% once a week and 2.3% occasionally. Only 10% of the respondent consumed fruits once daily, 27% once a week, 15% 2-3 times weekly and 42% occasionally.

Table III: Consumption Pattern of Vegetables and Fruits by the Respondents

Consumption Patterns	Frequency	Percentages (%)
Vegetable Consumption		
Once daily	678	50.2
Once weekly	63	4.6
2 to 3 times weekly	421	31.1
4 to 5 times weekly	156	11.5
Occasionally	32	2.3
Total	1350	100
Fruit Consumption		
Once daily	135	10
Once weekly	364	27
2 to 3 times weekly	203	15
4 to 5 times weekly	82	6.1
Occasionally	566	42
Total	1350	100

Table IV indicates that respondents' choice of fruits and vegetables was predominantly influenced by availability (36%) taste (15.7%) and appearance (14.4%) habits (10.3%) hunger (10.2%) health benefits (8.6%).

Table IV: Determinants of Choice of Vegetables and Fruits by the Respondents

Determinant of choice of fruits and vegetables	Frequency	Percentages (%)
Availability	484	35.8
Taste	215	15.9
Appearance	194	14.3
Habit	138	10.2
Satisfy hunger	137	10.1
Health benefits	115	8.5
No specific reasons	67	5.0
Total	1350	100

Table V shows a calculated t-value of 0.826 and p-value of 0.409, testing at an alpha level of 0.05. Since the p-value is greater than the alpha level, the null hypothesis which states that there is no significant difference in fruit consumption pattern was rejected.

Table V: Comparison of Fruit Consumption by Male and Female Respondents

Gender sig	N	Mean	Sd	t-cal
Male	592	127.71	16.21	.826
Female	758	228.04	18.30	.409

$\alpha = 0.05$

N = number of respondents

SD = standard deviation

T.cal = T. calculated

Sig = significant figure

DISCUSSION

The study shows that more than half of the respondents were women and married with majority having the Bachelor of Science and Higher National Diploma. The study revealed that residents of Somolu Local Government Area of Lagos State frequently consumed fruits such as banana, pawpaw and oranges, while vegetables such as okra, garden eggs, tomato and water leaf are the most frequently consumed. This might be attributed to the availability of these fruits and vegetables in the state. Similar studies in Ogun, Osun and Kwara States reported preference for bananas and oranges among other fruits [Ibrahim, 2011; Chung, 2005; Southon, 2000; & Agwu, 2011].

This study revealed that the choice of fruits and vegetable by adults' residents in Somolu LGA depended on availability, taste and appearance, indicating that all respondent consume fruits and vegetables but for various reasons. This supports the findings of various studies [Kpodo, Mensah, & Dzah, 2014; Ruel, Minor, & Smith, 2005; Mintah, Eliaasion, Nsiah, Beeh, Hagan, & Ofoon, 2012; Gross, Pollock, & Braun, 2010; Hall, Moore, & Harper, 2009; Ezenwa, Igboke, & Adeoye-Agomoh, 2016].

The occasional consumption of fruits by some respondents observed in this study despite their abundance and availability at their season could be as result of lack of awareness of the health benefits of fruits and vegetables. Similar, results have been reported by some researchers [Al-Otaibi, 2014; Blanchard, Kupperman, Sparling, Nehl, Rhodes, Courneya, & Baker, 2009; Emanuel, McCully, Gallagher, & Updegraff, 2012; Mintah, Eliaasion, Nsiah, Beeh, Hagan, & Ofoon, 2012].

Gender differences have been reported in some studies on consumption of fruits and vegetables. [Glover-Amengor, 2013; Nicklett, 2013; Southon, 2000; Agwu, 2011]. Female respondents showed more favorable attitude towards consumption of fruits and vegetables, however this study revealed that there was no significant difference in the consumption of fruits and vegetables between males and females in Somolu local government area of Lagos State. This implied that consumption pattern did not differ between male and female respondents.

CONCLUSION

The study has established that the frequency of consumption of fruits is considerably low, despite its availability and accessibility among adults in Somolu local government of Lagos-State while that of vegetables is also not adequate but it was better than that of fruits. The study also depicted that there is no significant difference in consumption of fruits and vegetables between males and females in the study area.

RECOMMENDATION

There is therefore the need for sensitization of the general public by health professionals, non-government organizations and government of the importance of daily consumption of fruits and vegetable because of their health benefits.

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