

Fruits Consumption Pattern of Tiv-People of Gwer West Local Government Area of Benue State Nigeria

RESEARCH ARTICLE

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ABSTRACT

Fruit consumption pattern of Tiv-People of Gwer-West Local Government Area of Benue State was investigated. Four hundred (400) subjects were studied for two months, during which their fruits intakes were identified. Systematic random sampling technique was adopted for the recruitment of the subjects. Food frequency Questionnaire was administered to every fifth house/compound in capturing their fruit intake per day and a week. The result on factors affecting choice of fruits consumed by the subjects were taste (92.5%), season (89%), cost (86.75%), habit (81%), sensory appeal (80.25%), Time (76.75%) and Health (64%). Women of age group 23 – 27 were more likely to consume fruit with the most average number of times/day (2.86) with age group 28 – 32 which had the highest quantity been consumed (3.65g) while Age group 38 – 42 and 23 – 27 had the least number of times and quantity consumed (2.41) and (3.33g) respectively. The male age group 28 – 32 had the highest number of times (2.82) of fruit intake per day while Age group 23 – 27 consumed more number of fruit. Age group (38 – 42) had the least number of times and quantity consumed/day. Fruit intake based on gender of the respondents indicated that women were more likely to consumed fruit than men. Occupationally, adults of civil servant had the highest scores for fruit intake (3.11) and (3.50g) for number of times and quantity respectively while farmers had the least intake. Fruit intake of the subjects who had received high level of training had higher intake of fruit (3.02) and (3.76g) for number of times/day and quantity/day, as against lower values of those who were poorly educated.

Keywords: Fruits, consumption, pattern and intake.

INTRODUCTION

The word fruit can be defined as a ripened ovary of a flowering plant containing seed(s) [1]. Fruits are of great nutritional value as they are important sources of vitamins and minerals. (Vitamin C, thiamine (B1), niacin(B3), pyridoxine (B6), vitamin E, vitamin K), and minerals such as (iron, calcium, potassium, iodine) as well as dietary fiber [2]. Apart from vitamins and minerals fruits are also good sources of Phytochemicals that play significant roles in disease prevention [3]. Researchers have shown that the antioxidants found in fruits confer protection

against cancer and cardiovascular diseases such as stroke, high blood pressure, cholesterol lowering effect [4, 5].

In spite of their importance in diet, per capital consumption of fruits in the developing world is only 100g compared with 200g in the more advance counties [6]. The low intake of fruits made World Health Organization (WHO) place the low intake of fruits 6th among its 20 risk factors for global human mortality just behind other killer's indicators such as tobacco use and high cholesterol diets [7].

World production of major tropical fruits was 62 million Metric tonnes. Developing countries accounted for about 98 percent of total fruit production, with developed countries 2%. Out of what is produced, 4.5% was consumed, 45.5% were consumed as processing juice, jam annually [8]. Nigeria is credited with production of large quantity of fruits such as mangos, watermelon, guava, pineapples, pawpaw, orange, tomatoes, tangerines and many other indigenous fruits, which account for about 9,979,700 Metric tonnes (MT). Over 50% are lost due to perishable nature of fruits cleaned by high moisture content, poor post harvest handling and marketing strategies [9]. Fruit juice is the next best thing to fresh fruit, and can be packaged in aseptic, easily transportable containers that are less susceptible to damage and have relatively long storage life [9].

Dietary habit is general, a wide range of factors influence fruit consumption, factors in a physical, social and cultural environment as well as personal factors such as taste preference, level of independence and health consciousness[10].

The objectives of the study were to identify factors that affect the choice of fruits consumed, identify the frequency of fruits consumption among the inhabitants of Gwer west LGA and to determine the quantity of fruits consumed by the inhabitants of Gwer west LGA on a daily basis.

MATERIALS AND METHODS

Research Design

The research design used was descriptive survey. Descriptive surveys collect data from a representative sample of the large population in order to treat the distribution and interaction of variables and make deductions.

Study Area

Gwer West Local Government Area derives its name from River Gwer and was carved out of Gwer Local Government in 1991. Naka the headquarters of the local government is situated at kilometer 40 along Makurdi – Ankpa road. Gwer West is bounded by Makurdi and Duma local government areas to the North, Gwer Local

Government to the East, Otukpo Local Government to the South, Apa and Agatu Local Government Areas to the West.

The main inhabitants of Gwer West are Tiv, ethnic group residing in the local government area. Other ethnic groups are Yoruba's, Igbo, Hausa and other ethnic groups. The occupation of the inhabitants is crop farming (Rice, Maize, Sorghum, Cassava, Yam, Vegetables, Soya beans, Beniseed and Groundnut).

According to the 2006 National census, the Local Government had a total population of 122,145 people occupying 1,094km².

Sampling Technique

Naka the Headquarters of Gwer west LGA was purposely selected for the study because of its large and heterogeneous population. Systematic Random Sampling Techniques was adopted in the recruitment of subjects for the study. This involved the administration of the instrument on every fifth house/company on both sides of a street. Adult members of the selected

households/compounds constituted the subjects or were eligible to participate in the study. A total of 50 compounds/houses were therefore sampled with a total population of 400 subjects.

Data Analysis

Means and standard deviations of the various data were determined using analysis of variance (ANOVA). Separation and comparison of mean was performed using Duncan's method.

RESULTS AND DISCUSSION

Table 1: Factors that Determined the Fruit Choice of the Respondents.

Factor	Frequency	Percentage (%)
Cost	347	86.75
Habits	324	81
Health	256	64
Taste	370	92.5
Season	356	89
Time	307	76.75
Sensory appeal	321	80.25

Table 2: Mean number of times/day and quantity/day of female fruit consumption based on their age group.

Age group	Subject	Mean number of times/day	Mean quantity/ day(g)
18 – 22	39	2.84±0.99 ^a	3.38±1.02 ^a
23 – 27	31	2.86±0.89 ^a	3.33±1.10 ^a
28 – 32	38	2.72±0.96 ^a	3.65±1.05 ^a
33 – 37	12	2.76±1.02 ^a	3.21±1.17 ^a
38 – 42	33	2.41±1.02 ^a	3.51±1.06 ^a

Values with same superscript in a column do not differ significantly ($p > 0.05$).

Table 3: Mean number of times/day and quantity/day of male fruit consumption based on their age group.

Age group	Subject	Mean number of times/day	Mean quantity/ day(g)
18 – 22	83	2.67±0.86 ^a	3.40±0.84 ^a
23 – 27	48	2.57±0.94 ^a	3.47±1.01 ^a
28 – 32	54	2.82±1.12 ^a	3.15±1.10 ^a
33 – 37	30	2.59±1.07 ^a	3.30±1.17 ^a
38 – 42	32	2.54±0.91 ^a	3.12±1.04 ^a

Table 4: Fruit intake based on Gender

Gender	Mean number of times/day	Mean quantity/day (g)
Male	2.64±0.98 ^a	3.29±1.03 ^a
Female	2.71±0.98 ^a	3.42±1.03 ^a

Table 5: Mean number of times/day and quantity/day of fruit intake of the subject according to their Occupation.

Occupation	Subject	Number of times/day	Quantity/day (g)
Farming	102	2.64±0.71 ^b	3.25±1.05 ^b
Student	177	2.75±0.95 ^b	3.36±0.35 ^b
Civil servant	121	3.11±1.11 ^a	3.50±1.12 ^a

The importance of fruit intake cannot be minimized due to its association with the prevention of chronic diseases [11]. For example, a strong link between fruit intake and cancer prevention has been well documented; it estimated this approximately 30% of all cancers are accounted for by poor dietary habits [12, 13]. Low fruit intake is a known risk factor for the cancers of the lung and gastrointestinal tract, cardiovascular diseases, also a reduced risk with high fruit consumption.

The factors influencing choice of fruits consumption is shown Table 1. Taste (92.5%) and season (89%) were the major influences of fruit consumption. Other factors were cost 86.75%, habit 81%, sensory appeal 80%, time 76.7% and Health 64%. Lennernas *et al.*, [10] identified five most factors which were quality, price, taste, family preferences and health.

Table 2 shows mean number of times/day and quantity per day by the age of female fruit consumption. Age group 23 – 27 were more likely to consume fruit with the most average number of times/day (2.86) with the highest quantity been consumed (3.65g) for age group 28-32. Age group 38 – 42 and 33 – 37 had the least number of times and quantity of fruit consumed (2.41 and 3.21g) respectively.

Table 3 shows the mean number of times and quantity/day of female fruit intake by male age group. The age group of male subjects showed that age group 28 – 32 had the highest number of times/day (2.82) while age group 23 – 27 consumed more number of fruit/day (3.47g). Age group 38 – 42 had the least number of times (2.54) and quantity consumed/day (3.12). Riediger *et al.*, [14] reported no significant difference between the percentage of the total subjects from each age group who reported consumption of fruit and vegetable greater than or equal to five times daily. However, difference between the youngest (65 – 69 years old) and the oldest (> 80 years old) groups were more apparent. Approximately 45% of subjects from the 65 – 69 age group and 49% from the greater than 80 and group reported consuming fruits and vegetable greater than or equal to five times/day.

Table 4 shows Fruit intakes of the respondents based on gender. Female respondents were more likely to consume fruit five times/day than male. It was observed that the average mean number of times and quantity/day were 2.71 and 3.42g for females as against 2.64 and 3.29g of males. Canadian Community Health Survey [15] reported that, females consumed fruit five or more times daily compared to 33.5% of males. The nutritional implication is that those who consume low increased risk factor for the cancers of the lung, gastro intestinal tract, cardiovascular disease obesity [16]. Higher fruit intake may also have a positive impact on bone minerals status [12].

Table 5 shows Fruit intake according to the occupation of the subjects. Among the various occupation however, adults of civil servant had the highest number of times and quantity of fruit intake/day (3.11) and (3.50g) respectively while farmers had the least intake.

Table 6 shows fruit intake and educational attainment of the respondents. It was observed that higher education was associated with a greater portion of adults consuming fruit greater than or equal to three times daily. Fruit intake of the subject who received high level of training had higher intake of fruit (3.02) and (3.76g) for number of times/day and quantity/day, as against lower values of those who were poorly educated. Riediger et al. [14] reported that post-secondary education, independent of income, is associated with a significant rise in the proportion of the Canadian elderly who reported adequate intake of fruit and vegetable. The association with education may be related to nutrition education or perhaps knowledge of health and chronic disease. Other studies supported that higher house hold education was associated with a greater proportion of elderly, consuming fruit and vegetable greater than or equal to five times/day, a significant impact of post-secondary education on fruits vegetable in elderly, intake of fruit was increased from approximately 41% 100% in elderly with less than secondary education to those post-secondary education [14].

CONCLUSION

In this study, fruit consumption pattern of Tiv-People of Gwer-West Local Government Area of Benue State was investigated. From the findings, taste and season are the major factors that influence fruit consumption. Additionally, females consume fruits more frequently in a day than males, with a mean intake of 3.42g and 3.29g respectively. Among the various age groups, age group 23 – 27 and 28 – 32 had the highest fruit intake. On the basis of educational attainment, first degree holders were in the majority of fruit consumers. On occupation however, civil servants consume fruits more than people in the other occupations

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