



# Asian Journal of Scientific Research

ISSN 1992-1454

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## **Nutritional Lifestyle of Rural and Urban People of Kaduna State, Nigeria: Mitigation via Educational Intervention**

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**Abstract:** The study examined the relationship between the nutritional lifestyle of rural and urban people of Kaduna state, Nigeria. The nutritional lifestyle examined include the difference in proteins, calories, vitamins and minerals consumption by the rural and urban people of Kaduna state, Nigeria. It also examined their attitude towards the consumption of natural and refined food products. Descriptive research design was adopted for the study. The population consisted of all individual age 16 years and above living in both rural and urban areas of Kaduna state, Nigeria as at the time of the study. Stratified and cluster random sampling techniques were used to select samples for the study. A total of 1350 randomly selected samples were used for the study. A structured questionnaire, developed and pilot tested with a reliability analysis scale of 0.92r was used for the study. The data collected were statistically analyzed using t-test. All the hypothesis generated were subjected to statistical analysis. The result showed that significant difference exists in the calories, natural and refined food products consumed by rural and urban people of Kaduna state, Nigeria. It also reveals that rural and urban people of Kaduna state, Nigeria are not significantly different in their nutritional lifestyle. The researchers recommends, among others that appropriate health education interventions be put in place in other to promote active living among the people of Kaduna state, Nigeria.

**Key words:** Nutritional lifestyle, urban people, Kaduna state, refined foods, natural food, educational intervention

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### **INTRODUCTION**

The major cause of mortality in developed and developing countries of the world are diseases in which nutritional lifestyle plays an important role. The choices of what people eat are determined by various factors such as religions, customs and socio-economic differences. The principal determinant is the environment in which an individual find himself or herself. Changing these factors in the direction of nutritional lifestyle patterns could postpone the age of onset of permanent mobility, disability, disease occurrences and death

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and could have a major effect on quality of life (Bush *et al.*, 1990; Verbrugge and Jette, 1994; Haveman *et al.*, 2002; Mitrou *et al.*, 2007; Waijers *et al.*, 2006). As pointed out above, the nutritional lifestyle of an individual is influenced by a variety of external and internal factors based on the complex interactions between the individual and his environment.

Sharma *et al.* (1996) and Mennen *et al.* (2000) reported that urban lifestyle in Africa is characterized by changes in dietary habits involving an increase in consumption of refined sugars and saturated fat and a reduction in fibre intake. Majority depends on imported and refined food nutrients with little nutritional values which may have adverse effects on their well being. Moreover, there is reduction in physical activity with urban lifestyles.

Rural population depends on available natural foods like green vegetables, fresh fruits and dairy products in their immediate environment. Although, significant amount of refined food could also be noticeable in the rural areas such as bread, soft drinks and other refined or processed food products. Rural people have a high physical activity related energy expenditure compared to urban subjects (Singh *et al.*, 1989; Heini *et al.*, 1991; Iestra *et al.*, 2005; Knops *et al.*, 2004; Haveman *et al.*, 2003). Thus, explaining the higher ratio's of obesity, overweight and other food deficiency diseases in the cities.

Nutrition is the entire process in which our bodies absorb and make use of foods; nutrients are those substances in foods that sustain our bodies. Nutrients serve three basic functions; (1) Building and repairing the body tissues, (2) regulating body processes and (3) supplying energy. This study therefore group the nutrients we consume around the three basic functions stated above to include; (1) proteins, (2) vitamins and minerals and (3) carbohydrates, fats and oil.

Food choice is an important determinant of people's quality of life. Poor or unbalanced diets as in the case of excessive eating and under nutrition, are risk factors for several chronic diseases. Poor food intake reduces the level of nutrients in the body thereby exposing the patients to nutritional health related problems. For example, a diet characterized by a high proportion of high-fat dairy food, fatty containing sugars and by a low proportion of vegetables, fruits, cereals and legumes poses an increase risk of nutritional deficiency diseases. The choice of good nutrition is not only important in preventing health problems and promoting active living, but it is a critical part of managing diseases among those who are infected or sick (Haveman *et al.*, 2003).

The study examined the relationship between the nutritional lifestyle of rural and urban people of Kaduna state, Nigeria. It examined the difference in the consumption of proteins, carbohydrates and fats as well as vitamins and minerals salts. The study also examined the differences in the consumption of natural and refined food products among the people of Kaduna state, Nigeria.

## **MATERIALS AND METHODS**

This research was conducted in Zaria, Kaduna state of Nigeria in between July 2004 and June 2005.

### **Research Questions**

The following research questions were outlined in an attempt to find solution to the research problem.

- Do the nutritional lifestyle of urban people of Kaduna state, Nigeria significantly different from their rural counterparts?

- Is there any significant difference in the consumption of proteins, calories, vitamins and mineral salts among the rural and urban people of Kaduna state, Nigeria?
- Why does the urban people of Kaduna state, Nigeria prefers refined and imported food products then the rural foods?

### **Hypothesis**

The following hypothesis were formulated and tested for the study.

### **Main Hypothesis**

There is no significant difference in the nutritional lifestyle of rural and urban people of Kaduna state, Nigeria.

### **Sub-Hypothesis**

- Rural and urban peoples of Kaduna state, Nigeria are not significantly different in their protein consumption
- Rural and urban people of Kaduna state, Nigeria are not significantly different in their calories consumption
- Rural and urban people of Kaduna state, Nigeria are not significantly different in their vitamins and minerals salts consumption
- Rural and Urban people of Kaduna state, Nigeria are not significantly different in their consumption of natural food products
- Rural and urban people of Kaduna state, Nigeria are not significantly different in their consumption of refined food products

Descriptive research design was adopted for this study. The population consists of all individuals from age 16 years and above living in Kaduna state, Nigeria as at the time of the study. A structured questionnaire, developed and pilot tested with a reliability analysis scale of 0.92r was used for the study. A total of 1350 respondents (rural 450 respondents, urban 900 respondents) were selected using a combination of stratified and cluster random sampling techniques. The researcher with the help of three research assistants who are fluent in the various local languages in the state (Hausa, Fulani, Garje, Yoruba, Nupe Ibo, Jaba etc) were actively involved in the administration of questionnaire, samples were drawn from the six rural area (Ja'ma, Kwangila, Giwa, Buruku, Kagoro and Kagoma) and six urban areas, (Zaria city, Samaru, Kawo and Mando, Birni Gwari, Kafanch and Kwoi) carefully selected using random sampling techniques across the three senatorial districts of Kaduna state, Nigeria. Seventy five respondents were randomly selected from each of the rural areas, which 150 respondents were randomly selected from each of the urban areas.

The data that emanated from the study were statistically analyzed using student t-test using Statistical Package for Social Science (Pezzilli and Pancreas, 2000).

## **RESULTS**

The result presented in Table 1 and 2 were strictly based on research questions. A careful examination of Table 1 shows that the calculated t-value of 1.70 is less than the critical value of 1.96 at 0.05 alpha level of significance. Therefore, the null hypothesis that says rural and urban people of Kaduna state, Nigeria are not significantly difference in the nutritional

Table 1: Means, standard deviation, standard error and t-value of difference between the nutritional lifestyle of rural and urban respondents in Kaduna state, Nigeria

Type of dwelling	No. of cases	Means	SD	SE	df	Cal. t-value	Critical value	Remark
Rural	450	16.2311	4.323	0.204	1348	1.709	1.96	Not sign
Urban	900	15.8011	4.396	0.147				
Total	1350							

Table 2: Means, standard deviation, standard error and t-value of differences in the consumption of protein, calories, vitamins, natural and refined food products by the rural and urban respondents of Kaduna state, Nigeria

Nutrition	Type of dwelling	No. of cases	Means	SD	SE	df	Cal. t-value	Critical value	Remark
Proteins	Rural	450	15.9094	4.303	0.134		-0.54	1.96	Not sign.
	Urban	900	16.0209	4.607	0.261	1348			
	Total	1350							
Calories (carbohydrates, fats and oil)	Rural	450	8.6002	2.691	0.153	1348	3.43	1.96	Sign.
	Urban	900	8.0032	2.707	0.084				
	Total	1350							
Vitamins and minerals	Rural	450	9.5971	4.134	0.128	1348	-0.84	1.96	Not sign.
	Urban	900	9.7276	4.521	0.266				
	Total	1350							
Consumption of natural food products	Rural	450	10.2622	3.887	0.183	1348	4.41	1.96	Sign.
	Urban	900	9.1944	4.344	0.145				
	Total	1350							
Consumption of refined food products	Rural	450	4.7700	5.498	0.183	1348	5.78	1.96	Sign.
	Urban	900	8.6222	5.655	0.267				
	Total	1350							

Df = N - 2 = 1350 - 2 = 1348, Critical value = 1.96, p < 0.05

lifestyle is accepted. This means that there is no significant difference in the nutritional lifestyle of rural and urban people of the Kaduna state, Nigeria.

Table 2 shows that the calculated t-value for proteins (-0.54) and vitamins and mineral salts (-0.84) of the respondents were less than the critical/table value of 1.96 with a degree of freedom 1348 at 0.05 alpha level of significance. Therefore, the null hypothesis that says there are no significant difference in the proteins, vitamins and mineral salts consumption of rural and urban respondents of Kaduna state were upheld. This means that significant differences does not exist in the protein, vitamins and mineral salts consumption by rural and urban respondents of Kaduna state, Nigeria.

Table 2 also reveals that the calculated t-value for calories (3.43), natural foods (4.41) and refined or processed foods (5.78) were greater than the critical value of 1.96 with a degree of freedom 1348 at 0.05 alpha level of significance. Therefore, the null hypothesis that says rural and urban people of Kaduna state, Nigeria are not significantly different in their consumption of calories, natural and refined food products were rejected. This implies that significant difference exist between rural and urban respondents in their consumption of calories, natural and refined food products.

## DISCUSSION

The finding that there is no significant difference in the nutritional lifestyle of rural and urban of people of Kaduna state, Nigeria as presented in Table 1 is supported by the findings of Sharma *et al.* (1996), Shehu (2005) and Mennen *et al.* (2000). While Shehu (2005) reported that evidence shows the prevalent of poor nutritional basis in the rural areas resulting in food deficiency diseases like rickets, kwashiorkor, marasmus, scurvy, anaemia, osteoporosis and early mortality especially among the under-five and other vulnerable groups. Sharma *et al.* (1996) and Mennen *et al.* (2000) submitted that urban lifestyle in developing countries is characterized by poor dietary habit involving an increase in consumption of refined sugars,

saturated fats, imported and refined food nutrients with little nutritional values which may have adverse effects on their quality of life. The contradictory in the reports of the authors cited above, lay credence to the finding of this study that there is no significant difference in the nutritional habit of rural and urban people of Kaduna state.

It was also found that rural and urban people of Kaduna state are not significantly different in their proteins, vitamins and mineral salts consumption. On proteins consumption, the respondents in both rural and urban areas of Kaduna state, Nigeria concord that they depends on plant and animal sources of protein for their daily protein which are readily available in their communities. Examples of protein foods listed by the respondents are soya beans, meat, poultry products, beans, fish (fresh and dry) etc., the average means of 15.9094 (rural) and 16.0209 (urban) which are closely related as presented in Table 2 is a pointer to this direction. On vitamins and mineral salts, while the rural people submitted that they can easily get their daily vitamins requirement from fruits and green vegetables from the neighbourhood farms, the urban respondents believed that fresh fruits and green vegetables are abound in the market at affordable prices. The average means of 9.7276 (urban) and 9.5971 (rural) which are closely related lay by credence to the finding that rural and urban respondents of Kaduna states are not significantly different in their vitamins and mineral salts consumption.

The finding that significant difference exist in the calories consumption of rural and urban respondents of Kaduna state can be understood, an in consonance with the finding of Alemu and Lindtjom (1995). The researchers reported a reduction in calories and physical activity with urban lifestyle while the rural populations rely on high calories food nutrients to meet daily energy requirement due to intense agricultural activities and manual work or labour as their main occupation, Singh *et al.* (1989) and Heini *et al.* (1991) also laid credence to the fact that rural people have a high physical activity related energy expenditure thus, required more calories nutrients compared to urban subjects.

Significant differences were also found between the rural and urban people of kaduna state in their consumption of natural and refined food products. While the rural people depend mainly on natural food products available in their immediate environments, the urban subjects rely on processed, refined and imported food items. This finding was supported by Sharma *et al.* (1996) and Mennen *et al.* (2000) when they reported that urban lifestyle in Africa is characterized by changes in nutritional habits involving an increase in consumption of refined sugars and saturated fat and a reduction in fibre intake. They added that, majority of urban subjects depends on imported and refined foods nutrients with little nutritional values which may have adverse effect on their well being.

## **CONCLUSION AND RECOMMENDATION**

Rural and urban people of Kaduna state are not significantly different in their nutritional lifestyle. Rural and urban people of Kaduna state are not significantly different in their consumption of proteins, vitamins and minerals salts nutrients. Rural and urban people of Kaduna state are significantly different in their consumption of calories, natural and refined food products.

Based on the finding of the study, the following recommendations are made: Health educate the people on the choice of food nutrients like protein, carbohydrate, vitamins, mineral, fats and oils in the current proportion would go a long way to influence or determine the nutritional lifestyles of an individual. Appropriate health education interventions with prompt monitoring and surveillance activities by health practitioners, teachers, parents or guardians and other categories of health workers be put in place to check cases of early

mortality among under and five other vulnerable groups occasioned by poor nutritional habits. Government should encourage people to farm and provide necessary incentives to ensure adequate food security in the country. Storage and processing facilities be provided to ensure the availability and affordability of food items like fruits and green vegetables across the seasons. The dietary habits of carbohydrates all days by the rural people and dependence on refined and imported food products by the urban subjects be discouraged.

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