

Food Consumption Pattern and Selected Lifestyle Characteristics of Traders in Ubakala Market in Umuahia South Local Government Area of Abia State.

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Abstract

The general purpose of the study was to investigate the food consumption pattern and selected lifestyle characteristics of traders in Ubakala, Umuahia South L.G.A. of Abia State. Specifically, it determined: socio-demographic and economic characteristics of the traders, their food consumption patterns, types of food consumed, lifestyle and BMI characteristics. The study adopted survey design. Population consisted of all traders in daily markets at Ubakala. Questionnaire was used for data collection. Body mass index (BMI) was calculated from anthropometric measurements. Data were analyzed using frequencies and percentages. Result among other things, showed that there were more females (83.8%) than males (16.2) in the market with an average monthly income of <N10.000 – N>50.000. Over half (52.9%) of them skipped meals. Lunch (32.4%) was the most frequently skipped. Consumption of meat and fish (72.4%), snacks (62.4%), soft drinks (54.6%) and tubers (58.6%) were high; Cereals (54.3%) consumption was moderate while legumes (11.4%), nuts (15.7%), fruits and vegetables (9.0%) were rarely consumed. Some (17.1%, 40.0% and 25.7%) smoked cigarette, use tobacco and consumed alcohol respectively. Pica (white chalk (22.9%) and white clay (20.0%) consumption was also observed. Majority (94.3%) had no regular exercise pattern and few (11.4%) trekked to the market. The food habit and sedentary lifestyle may have contributed to the high prevalence of overweight (27.6%) and obesity (34.8%) observed among the respondents with more males (44.1%) being overweight than females (24.4%) and more females (36.4%) being more obese than the males (26.5%). Four recommendations for promoting food consumption patterns and lifestyle of the traders were made.

Key words: Food, Consumption, Pattern, Lifestyle, Traders, Physical Activity, BMI.

Introduction

Food consumption pattern refers to the way different people select, cook, serve and eat the foods available to them (Okeke 2014). The common practice in

most traditional cultures has been to eat three meals (breakfast, lunch, and dinner) per day. The component of meals according to Gwatkin *et al.* (2007) varies across cultures.

In sub-Saharan Africa, Sally *et al.* (2012) reported that carbohydrate foods (mainly tubers and roots such as cassava, yams and potatoes) remain typically the main staple. In Tanzania Ugali, a stiff porridge of maize is the most common food, whereas in South Africa, the most common carbohydrate foods were maize and bread (Hoffmeister *et al.*, 2005). Oguntona and Akinyele (2002) reported that the major staple consumed in Nigeria were roots and tubers served as different types of 'fufu' or 'swallow' (a group of bolus meals such as eba, pounded yam, amala, semovita and tuwon) eaten with soup. The root and cereal/ grains used for these bolus meals included cassava, yam, plantain, corn, wheat and rice. Within Nigeria, there are some regional variation in the type of bolus meals consumed with great consumption of rice and maize-based meals in the North and consumption of yam and cassava based meals in the South.

Food habit of traders seem to conform to the food habit of their immediate communities which according to Onimawo (2014) have been undergoing dramatic transformation from the traditional diets that were high in fiber, low in calorie with minimal protein to the Western type of diet that is low in fiber, calorie dense and high in protein, most of which are over processed. This change can be attributed to urbanization rate and improved socio-economic status among the populace including traders. For example, Steynet *et al.* (2006) reported that in South Africa the most commonly consumed foods were sugar, tea, maize, porridge brown bread, coffee, white bread, potatoes, hard block margarine and milk. In Nigerian, Sally *et al.* (2012) reported that rice was the most

consumed carbohydrate, followed by bolus meals and soup in both urban and rural communities. Sally *et al.* (2012) observed that about four decades ago, imported long grain parboiled rice was consumed mainly on weekends, celebrations and parties, the consumption of locally grown rice was not very high as bolus meals with soup but the pattern have change drastically. Rice both the imported parboiled long grain variety and the locally stone free variety is now often consumed on week days. This trend has been strengthened more by the introduction of fast food restaurants, whose major product is packaged chicken and rice meals ,Anulogu, and Owolabi (2011). FAO (2010) reported that pounded yam which was hitherto consumed as ceremonial/celebration food is now consumed more frequently than before. This was attributed to easier methods of preparation and also to the reduced time required for its preparation (as a result of increased use of labour saving devices and convenient pre-prepared packets of Pounded and other root flours) and its availability at fast food restaurants.

Lifestyle refers to the way people live and it is a full reflection of their social values, habits, attitudes and activities. According to Speargaren and Vanvilet (2010) it includes but not limited to food habits, sleeping and resting habits, physical activities, smoking, alcohol consumption, tobacco and other substance use, immunization against diseases, coping with stress and ability to use family and society supports. Smoking, tobacco, pica and other substance use are some of the lifestyle habits that expose people to diseases. Pica according to Mawathe (2008) is a repeated non nutritive craving and

ingestion for either a food, food item or substances not commonly regarded as food. Examples include geophagia (eating of clay), pagophagia (eating of ice), paper pica and cautoypyreiophagia (ingestion of ashes). Geophagia, pagophagia and paper pica can lead to poisoning and anemia while cautoypyreiophagia can lead to gastro intestinal bleeding and parasitic infections (Schebendach and Reichert-Anderson, 2000).

The lifestyle of people like their food consumption pattern have been affected by such factors as urbanization and globalization. Ekpenyong, Udokang, Akpan and Samson (2012) noted that more people now have reduced physical activity in Nigeria as many adults spend at least seven hours every day sitting down and sedentary performing work activities, using labour saving devices, have access to improved transport facilities and no longer trekked short distances. Several studies have shown sedentary lifestyle and lack of physical activities as risk factors for non communicable diseases (NCDs) such as cardiovascular diseases (American Cancer Society, 2012), diabetes, colon cancer and high blood pressure (WHO, 2010); obesity (Centre for Disease Control and Prevention, 2010), osteoporosis (National Institute of arthritis and musculoskeletal and skin diseases, 2009), kidney stones (US Dept of Health and Human Services, 2009). WHO (2010) had submitted that a regular level of physical activity improves the health and well being of individuals which include enhanced mood and self esteem, improved physical appearance and a substantial reduction to cancers, obesity, osteoporosis and non insulin dependent diabetes, improves cardio vascular and

respiratory functions, slows the loss of muscular strength, increase bone mass, aids digestion and bowel function, promotes sound sleep and prevents depression.

Traders represent an important productive sector of the economy whose health and well being are paramount to economic growth and sustenance of the nation. Majority of them spend the greater part of the day in the market. Market environment influences their activities including their lifestyle and food habit. The worrisome challenge of consuming unhealthy diet is the risk of prevalence of NCDs among the people. Steynet *al.*, (2012) opined that the poor dietary shift currently going on in Nigeria can be attributed to the influence of urbanization and globalization. Poor diet (high consumption of sugar, salt, saturated fat) and unhealthy lifestyle (smoking, alcohol consumption and physical inactivity) according to WHO and FAO (2013) are major contributing risk factors to the increased prevalence of NCDs. When people choose food wrongly, they expose themselves to different diseases, if this is temporary, the disease may be short termed, alleviated rapidly and may cause no long standing harm to human life, however who continued unrelieved, the diseases may become chronic and irreparable and may eventually lead to death. For example, obesity, hypertension, diabetes and other NCDs have all been attributed to the habit of consuming foods high in fat, sugar and salt (WHO 2013).

Unhealthy eating habit and lifestyle have been reported in Nigerian populace including market women (Awosanet *al.* 2014, Abidoeyeet *al.* 2002). Except for the work by Ukaegbuet *al.* (2015), there is a dearth of the data on food consumption

and lifestyle of different occupational groups in Abia State in general and Ubakala market in particular. Amorah (2013) had also noted that nutrition data on the prevalence of NCDs is limited, where available. There is need for constant update among specific groups in the population, hence this study.

Purpose of the study

The major purpose of the present study was to investigate the food consumption pattern and lifestyle of traders in Ubakala Market (Ums), Umuahia South L.G.A of Abia State. Specifically, the study determined;

1. frequency of food consumption among traders in UMs.
2. types of food items consumed by traders weekly in UMs.
3. lifestyle characteristics of traders in UMs.
4. body mass index of traders in UMs.

Methodology

Design of the study: The study adopted survey design.

Area of the study: The study was carried out in Umuahia, the capital of Abia State in South Eastern Nigeria. Umuahia has two local governments areas (LGA,) North and South. The administrative headquarters of Umuahia South LGA is Apumiri Ubakala. There seven wards in Umuahia South LGA include Ubakala. There are three main daily markets in Ubakala. Besides the seven there are also roadside fruit, vegetable and evening markets scattered in the locality.

Population for the study: The population for the study consisted of all male and female traders in the seven daily markets at Ubakala. The daily markets have organized unions, zones and government. The markets gates that open

between 7am till 5pm. The traders sell a variety of goods including but not limited to food items and condiments, provision, articles, clothing items, household goods and electronics. There are market masters who superintendent over the activities of the traders and the market environments. Head of the market masters gave the population of the traders as over 4000.

Sample for the study: Two markets were purposively selected from the seven markets in the area of the study. These were the largest and the smallest markets. One hundred and twenty six (126) 84 traders were purposively selected from the largest and smallest markets respectively. These gave a sample of 210 traders. Sampling procedures ensured that the various sections of the market (traders) were represented.

Instrument for data collection: Questionnaire was used to collect data. It was developed based on the specific purposes and literature review. It was validated by three university lecturers of Human Nutrition and Dietetics. Cronback Alpha procedure was used to determine the internal consistency of the items. A reliability coefficient of 0.91 was obtained. Anthropometric measurements of height and weight of the subjects were determined using methods described by WHO (1995).

Data Collection Method: Two hundred and ten (210) copies of the questionnaire were distributed by hand. The whole 210 copies were properly filled and retrieved. This represents 100 percent return. Weight in kilograms was obtained by placing the scale on a flat surface. The pointer was adjusted properly to zero. The subject climbed on to the scale on bare feet wearing light clothing without any shoes, and other heavy items in the

pocket like key, heavy jewelries and wallets. The weight was recorded to the nearest 0.1kg.

Height (in meters) was measured when the subject stood erect with the feet and buttocks firmly positioned on the calibrated wooden meter rule (a stadio meter with base and calibrated steady piece with movable head). The movable piece was gently lowered to rest on the respondent's head, gently pressing down the hair without causing discomfort. Reading was taken to the nearest 0.1cm. Body mass index was calculated as follows:

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m}^2\text{)}}$$

Where weight = weight in kg and Height = Height in meters.

The values obtained were compared with the standard given by WHO (1995) as follows:

Body weight of <18.5 -Underweight
 18.5kg - 24.5kg- Normal
 25kg - 29 .9kg - overweight
 Above 29.9 kg - obese.

Data analysis: The data collected were analyzed using frequencies and percentages.

Findings of the study

Demographic characteristics: Data analysis shows that majority (83.8%) were females and only 16.2% were males. Many (35.7%) were between 31- 40 years, although 91.9% had experienced married life, 71.9% were still married with families while 18.6% and 1.4% were widowed and divorced respectively. The predominant religion was Christianity (95.7%) with very few (0.5%) Muslims and Traditionalists (3.8%). All except

7.6% of the subjects practiced the polygamous family system; the rest (92.4%) practiced monogamy. Cumulative majority (91.9%) had small families of between 1- 6. Many (70.5%) had up to secondary school education. Over a half (61.0%) were retailers the rest 29.0% and 10.0% were wholesalers and distributors respectively. The average monthly income of the subjects ranged from < N10.000 - >N50.000.

Table 1: Percentage Responses on Frequency of Meal Consumption of Traders in

| Ubakala Market | |
|---|------------|
| Frequency Indicators | F (%) |
| Daily meal consumption | |
| Twice | 111 (52.9) |
| Thrice | 84 (40.0) |
| >Thrice | 15 (7.1) |
| Most frequently skipped meals | |
| None | 99 (47.1) |
| Breakfast | 35 (16.6) |
| Lunch | 68 (32.4) |
| Dinner | 8 (3.8) |
| Reasons for skipping meals (111 respondents who skipped meals) | |
| Attending to customers | 42 (37.8) |
| Early morning rush | 39 (35.1) |
| No money | 22 (19.8) |
| Prevent weight gain | 8 (7.3) |

Table 1 showed the meal consumption pattern of the respondents. About half (52.9%) ate twice in a day and 47.1% did not skip meals. Lunch (32.3%) was the most frequently skipped meal. Some of the reasons given for this was when they attended to customers, only few (19.8%) skipped meals for lack of money and to prevent weight gain (7.3%).

Table 2: Percentage Responses on Weekly Food Consumption Frequency of Traders in Ubakala Market

| Foods | 1 – 3 times F(%) | 4 – 6 times F(%) | 7times/> F (%) |
|--------------------|-------------------------|-------------------------|--------------------------|
| Meat/Fish | 24 (11.4) | 34 (16.2) | 152 (72.4) |
| Snacks | 23 (11.0) | 56 (26.7) | 131 (62.4) |
| Roots / tubers | 9 (4.2) | 78 (37.1) | 123 (58.6) |
| Soft drink/malt | 20 (9.5) | 73 (34.8) | 114 (54.3) |
| Cereals | 66 (31.4) | 114 (54.3) | 30 (14.3) |
| Legumes | 143 (68.1) | 43 (20.5) | 24 (11.4) |
| Nuts | 122 (58.1) | 55 (26.2) | 33 (15.7) |
| Fruits/ vegetables | 108 (51.4) | 83 (39.5) | 19 (9.0) |

(Low 1 – 3 times, moderate 4 – 6 times, High 7/>) (Nelson 2000).

Table 2 depicts the weekly food consumption pattern of the traders. The consumption of meat/fish (72.4%), snacks (62.4%), root/tubers (58.6%) and soft drink (54.3%) among the respondents was high; it was consumed seven or more times in a week. Cereals (54.3%) were

moderately consumed between four to six times in a week. Legumes (68.1%), nuts (58.1%) and fruits/ vegetables (51.4%) were rarely consumed as the respondents consumed them between one to three times in a week.

Table 3: Percentage Responses on Selected Lifestyle Characteristics of the Traders in Ubakala Market

| Lifestyle characteristics | F(%) |
|--|-------------|
| Cigarette smoking pattern | |
| Yes | 36 (17.1) |
| No | 174 (82.9) |
| Alcohol | |
| Yes | 156 (74.3) |
| No | 54 (25.7) |
| Type of alcohol consumed | |
| Beer | 84 (40.0) |
| Palmwine | 75 (35.7) |
| Stout | 51 (24.3) |
| Tobacco snuffing/ chewing | |
| snuffing | 65 (31.0) |
| chewing | 19 (9.0) |
| No | 126 (60.0) |
| Pica (craving/ consumption of non food substances) | |
| White chalk (nzu) | 48 (22.9) |
| White clay (Uro) | 42 (20.0) |
| Ice block | 18 (8.5) |
| No | 102 (48.6) |
| Regular exercise | |
| Yes | 12 (5.7) |
| No | 198(94.3) |
| Regular means of transport to the market | |
| Trekking | 24 (11.4) |

| | |
|------------|------------|
| Use of car | 143 (68.1) |
| Use Keke | 38 (18.1) |
| Bicycle | 5 (2.4) |

Table 3 shows lifestyle characteristics of the respondents. Some (17.1%) of the traders smoked cigarette, many (74.3%) consumed alcohol and beer (40.0%) was the most consumed drink. Nearly half (40.0%) used tobacco 31.0% snuffed and 9.0% chewed it. Pica eating (white chalk (22.9%), white clay (20%) and ice block (8.5%) was also observed among the traders. Majority (94.3%) of them had no regular exercise pattern. Only very few (11.4%) trekked to the market, others used one form of transport or the other.

Table 4: Percentage Responses on Some Activities and Number of Times Traders in Ubakala Market attended them

| Types of Social activities | F(%) |
|---|-------------|
| Types of social activities traders engaged in (N210) | |
| Meeting | 210(100) |
| Burial/ funeral | 210(100) |
| Marriage ceremonies | 210(100) |
| Traditional ceremonies (festivals, chieftaincy) | 65 (31.0) |
| Child dedication/ naming ceremonies | 210 (100) |
| No of times engaged in meetings in a week | |
| Once | 182(86.7) |
| Twice | 23 (11.0) |
| >Twice | 5 (2.3) |
| No of times traders attended burials, marriage, child dedication | |
| None | 54 (25.7) |
| Once in a week | 21 (10.0) |
| Once in two weeks | 48 (22.9) |
| Once in a month | 87 (41.4) |
| No of times traders attended religious activities in a week | |
| None | 8(3.8) |
| Once | 54(25.7) |
| Twice | 90(42.8) |
| >Twice | 59(28.0) |
| No of times traders attended traditional ceremonies (65 traders) | |
| Once in a year | 14 (21.5) |
| Once in two years | 19 (29.2) |
| Once in three years | 32 (49.3) |

Table 4 shows some activities and number of times the traders engaged in them. All (100%) the traders reported that they engaged in activities like attending meetings, burial, marriage and child dedication/naming ceremonies and few (31%) attended traditional ceremonies. On the number of times they attended meetings in a week, many (86.7%) attended once, 41.4% attended burials, marriage and child dedication once in a month and 42.8% attended religious activities twice in a week. 49.3% attended traditional ceremonies once every three years.

Table 5: BMI Classification of the Traders in Ubakala

| BMI classification | Male F(%) | Female F(%) | Total F(%) |
|---|-----------|-------------|------------|
| Underweight(<18.5kg/m ²) | 0 (0) | 17 (9.7) | 17 (8.1) |
| Normal (low risk) (18.5 -24.99kg/m ²) | 10 (29.4) | 52 (29.5) | 62 (29.5) |
| Overweight (moderate risk) (25. – 29.99kg/m ²) | 15 (44.1) | 43(24.4) | 58 (27.6) |
| Obesity (high risk) (=30kg/m ²) | 9 (26.5) | 64 (36.4) | 73 (34.8) |
| Total | 34 (100) | 176 (100) | 210(100) |

$X^2 = 17.185, P = 0.000647.$

Table 5 indicates the BMI classification of the subjects. It shows 8.1% were underweight, 29.5% were normal. 27.6% (44.1% male and 24.4% female) were overweight while 34.8% (26.5% male and 36.4% female) were obese. The study showed a significant relationship at ($p < 0.05$) between the BMI of the male and female respondents.

Discussion

The finding of the study show that daily meal consumption pattern showed that over half (52.9%) skipped a meal when they attended to customers, this showed that time constraint and not necessarily cost or affordability was one of the reasons for meal skipping; but the most frequently skipped meal was lunch. This was different from the results of previous studies (Ezenwa and IHEME 2021,Ukaegbu *et al.*,2015 and Henry-Unaeze *et al.*, 2012)that reported breakfast as the most frequently skipped meals by traders. Meal skipping is not a very good habit as it may predispose individuals to nutrient deficiencies and other forms of malnutrition.

The weekly food consumption pattern showed that cereals (54.3%) were the only food consumed moderately by the respondents. The consumption of meat/fish (72.4%), snacks (62.4%), tubers (58.6%) and soft drinks (54.3%) were

high. Nuts (15.7%), legumes (11.4%) and fruits (9.0%) were consumed sparingly. This was similar to the report of Awosanet *al .*, (2014) but slight different from the findings of Ukaegbu *et al.*,(2015) who opined that cereals, meat/fish and fruits were rarely consumed. This dietary pattern depicts the current trend reported by Onimawo (2014) that the food habits of developing countries including Nigeria have been undergoing dramatic transformation. Meat/fish is necessary for the supply of protein in the body but it should not be consumed in excess. Pamplona-Roger,(2010) had opined that excess intake of fatty beef and egg may result in increased cholesterol deposits in the blood which is a predisposing factor to heart diseases. Snacks are adequate when consumed as in-between-meals because according to Steynet *al.* (2012) they help to give energy and other nutrients needed during the day, but because most of them are over processed with colourings and large quantities of salt; and for the fact that the traders consumed them as substitutes to main meals (lunch), they may not necessarily perform all the desired functions. WHO (2013) reiterated that over consumption of processed foods and snacks high in saturated fat could lead to deposit of dietary fat in the fat stores of the adipose tissue which may increase an predispose

individuals to becoming overweight and obese.

The low intake of fruits and vegetables observed among the traders was however different from the high intake reported by Ukaegbu et al., (2015). This could be as a result of the seasonal variation observed among the two studies. The previous study was done during the rainy season (between June and July 2012) when there is abundant of fresh fruits and green leafy vegetables. While the present study was done between January and February 2021. Low fruit intake has been associated with increased prevalence of NCDs, WHO (2014a) reported that incorporating fruits and vegetables into the daily diet could help prevent major Non Communicable Diseases including obesity.

On the prevalence of alcohol consumption among traders in Nigeria, Awosan et al. (2014) and Odugbemi et al. (2012) reported 10.8% and 1% respectively. Many (73.4%) of the traders in the present study were alcohol users and beer was the most commonly consumed brand. This corroborated results of Ukaegbu et al. (2015) that reported 57.9% usage with “stout” as the most common consumed brand. This practice is risky as too much alcohol consumption is a predisposing factor to obesity and other NCDs (WHO 2014b). The Christian religion which many of the traders practiced was expected to have contributed to low alcohol consumption but it did not. This could be attributed to the recent reports by WHO (2011c) that there is now an increased prevalence of alcohol consumption rate in developing countries. Some were pica eaters, 22.9% and 20.0%) ate white chalk (nzu) and white clay (uro) respectively. Pica consumption is an unhealthy habit that

contributes not only to nutrient deficiency but also expose consumers to infections and diseases, Schebendach and Reichert-Anderson (2000).

The study revealed also that majority (94.3%) of the traders had no regular exercise pattern, and almost all of them used one form of transport or the other (88.4%) to the market. This corroborates an early study by Ezenwa and Itheme (2021) but exceeds the finding of previous research (Research (Awosan et al. 2014, Asijehet et al. 2012, Jogunola and Awoyemi (2010) that reported different levels (50.7%, 76%, 29.6%) of physical inactivity respectively among different occupational groups in Nigeria. Improved means of transportation may have contributed to this as many of the traders used both cars and tricycle “Keke” to the market. Ezenwa et al (2016) opined that importation of Keke to Nigeria had led to improved means of transportation. Although the traders reported attending different types of activities, religious activities were attended twice by 42.8% and more than twice by 28.0% in a week. Majority (86.7%) attended meetings once in a week and 41.4% attended burials, marriage ceremonies and child dedication once in a month. This could be attributed to the fact that the activities were weekly and monthly events. Few (30.9%) reported they attended festivals and other traditional ceremonies. Among them 49.3% and 29.2% attended once in three and two years respectively. This could be as a result of the fact that many of the traditional ceremonies comes up annually, biennially or once in three years in the South East following the age grade system. Moreover many Christian denominations are restricted and careful in attending some traditional ceremonies.

These may have led to the reduced physical activity pattern observed in the study. This confirmed earlier reports by (Ezenwa and Itheme, 2021., and Ekpenyong *et al.*,2012) that sedentary life style is on the increase among traders and all other occupational groups in Nigeria, attributing it to the fact that many adults, including traders now spend about 7 hours in a day sitting down to do their jobs, drive or are driven to and from work as a result of the influence of urbanization and the shift to western habits. The physical inactivity rate is worsened by a less balanced diet and over reliance on energy dense food which has increased due to the growing presence of fast food outlets all over the country. The meal consumption pattern and the reduced physical activity may have contributed to the high prevalence of overweight (27.1%) and obesity (34.8%) observed among the respondents with more males (44.1%) being overweight than the females (24.4%) while more females (36.4%) were obese than the males (26.5%). This corroborates the report of Oladoyinbo *et al*(2015), that high prevalence of obesity and overweight among traders are not farfetched because of their sedentary life style. Furthermore that women are predisposed to obesity due to higher body weight as body fat gained at puberty, pregnancy and the cultural norm that associates being fat as a symbol of beauty, affluence and health may have also contributed to that. (Jackson *et al.* 2015) also showed clearly a social desirability for overweight and obese women in West Africa including Nigeria and particularly among the Igbos who preferred obese women than their slim counterpart.

Conclusion

The study revealed that there is an inadequate food consumption pattern among the traders at Ubakala market, which was characterized by meal skipping, particularly lunch; high consumption of snacks and soft drinks with low intake of fruits and vegetables. Cigarette smoking, tobacco use and Pica consumption were also observed which depicted high ignorance of the potential health and dangers associated with their misuse. Many used different forms of transport to and fro the market and had no regularly exercise pattern. Religious activities was only what they engaged in on a regular bases, other forms of social activities were sparsely engaged. The inadequate food consumption with poor sedentary lifestyle practices may have been the predisposing factors to overweight and obesity observed in the study and these should be discouraged among traders.

Recommendation

Based on the findings, the following recommendations were made:

1. Nutrition campaign in market places to help promote healthier eating habits among traders
2. Government should provide good market infrastructure that will encourage socialization and increased activity pattern among the sellers.
3. The traders could increase their physical activities by trekking short distances and getting involved in more meaningful social activities.
4. The traders could also adjust to eat lunch early before the afternoon market rush or later to avoid skipping meals.

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