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Sustainable Methods for Improving the Feeding Patterns of Undergraduate Student of Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

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Abstract The study identified the sustainable strategies for improving the feeding patterns of undergraduate students of Michael Okpara university of Agriculture, Umudike. The purpose of the study was to identify the feeding patterns adopted by the students and to identify the sustainable strategies for improving the feeding patterns of these students. The study adopted a survey research design. The population of the study was made up of 14,779 students of the various colleges and levels. Data was collected using well structured questionnaire developed through an extensive literature review. Purposive random sampling techniques were used to select 389 respondents used for the study. Data were analyzed using means and percentages. Results showed that most of the students agreed that they skipped meals as a result of habit formed about foods and they obtain their foods from fast food centres. The respondents enumerated the following as reasons for their pattern of feeding. Lack of times, insufficient money, health conditions, the presence of convenience foods amongst others was the major factors that affected their feeding patterns. The following strategies were identified; establishment of good school environment, access to good food, facilities, equipment, and quality school meal programme among others. Recommendations were made based on the findings of the study that the use of variety of social change campaign, employing social marketing approach, the use of prepaid meal plan among others should be encouraged.

Keywords: sustainable, strategies, feeding, patterns and undergraduates.

I. INTRODUCTION

The undergraduate student is faced with multiple challenges and more unforetold and frightening challenges continue to emerge every day. These include excess academic workload, poverty, accommodation problem, and lack of time and the presence of many junk foods hawked in the campuses. These create more challenges for youths like poor nutrients intake, obesity, wrong choice of food, poor feeding habits, excess carry over courses, and poor performance in the final grade, food insecurity and the list goes on. Adequate nutrition is important not only for

the youth's survival but also for optimal physical, mental and good health of the undergraduates. Food affects the level of physical, mental and social well being of individuals (Ajala, 2006). Nutrition is an input to and foundation for health and development. Better nutrition means stronger immune system less illness and better health. Healthy undergraduates learn better. They are stronger and more productive and more able to create opportunities to gradually break the cycles of both poverty and hunger in a sustainable way. Therefore, better nutrition is a prime entry point to ending poverty and a milestone to achieving better quality of life for sustainable development.

Sustainable means the ability or capacity for something to be maintained or to be able to continue forever. According to the Brundtland Commission Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Holbrook, 2009). This concept of sustainable feeding means that the patterns of feeding of the undergraduate students should be such that they will not compromise with their patterns of feeding without hampering their health and the future generation. The concept of sustainable methods of feeding is intended to embrace the idea of ensuring that the future generations inherit the methods for improving the feeding patterns that support their livelihood in such a way that they are not worse off than generations of today. There are three dimensions of sustainability; social sustainability (i.e. people issues such as health, food safety, quality life, hunger), environmental sustainability (i.e. land use, energy use and gas emissions, soil pollution) and economic sustainability (Lingren, 2005). These must be coordinated and addressed to ensure long term viability of their feeding patterns especially in the pursuit of improved quality of life.

Feeding is the taking or giving of food by an individual. While pattern is the procedure adopted by the youths while eating a meal. This may consist of eating concentrates before roughages and it includes nibbling, gorging and sham feeding. Thus, sustainable feeding pattern is a form of feeding adopted by

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undergraduates that will not harm their health in the future. Strategy is the careful plan or method employed towards achieving a goal (Umeh & Anyakoha, 2007). They also opined that strategy may mean an adaptation of behaviour that serves an important function in achieving success. Strategy could also mean a method or plan chosen to bring about a desired future such as achievement of a goal (Hoelscher & Johnson, 2004). Therefore, sustainable strategies could as well mean plans chosen to improve students feeding pattern that will last and be able to continue in the future without harming the undergraduates or their environment.

The undergraduate students are those between the ages of 17-25 years, even though there may be some who are younger or older than the required age. Based on WHO (2006) definition of an adolescent, Adolescent is a person between 10-19 years of age, it can be said that most of the undergraduates are in their late adolescent stage. Adolescents gain up to 50% of their adult weight, 50% of their adult's skeletal mass and more than 20% of their adult height during the period (WHO, 2006). Rapid changes in physical growth and psychological development have placed these young adults as nutritionally vulnerable groups with poor feeding habits, that fails to meet dietary requirements. The dietary habits and patterns of undergraduate students seems to change considerable during the short period of transition from home to universities which results to several future health consequences (Grace 1977).

It has been observed that feeding patterns and behaviour of adolescents often follows them into adulthood. Longitudinal studies have found that unhealthy nutrition at this period increase the risk of several diseases in adulthood for instance obesity (Wardlaw, 2005), Also dietary habits also have great implications for the dental health of adolescence and the increase in the consumption of sugar sweetened drinks during the last decade has also led to arise of dental problems (Amorim, 2000), These factors present great challenges for the public health and its therefore important to focus on the strategies for improving the feeding patterns of these students while in the universities,

Purpose of the study: The main purpose of the study was to determine the sustainable strategies for improving the feeding patterns of undergraduate's students of Michael Okpara University of Agriculture, Umudike, Specifically, the study;

1. Determined the feeding patterns adopted by the students
2. Identify the sustainable methods for improving the feeding patterns of undergraduate students of Michael Okpara University of Agriculture, Umudike.

Research Questions: The study was guided by the following research questions.

1. What are the feeding patterns presently adopted by the undergraduate students of Michael Okpara University of Agriculture, Umudike?
2. What are the sustainable methods for improving the feeding patterns of undergraduate's students of Michael Okpara University of Agriculture, Umudike.

II. METHODOLOGY

Area of the study: The study was carried out in Michael Okpara University of Agriculture, Umudike about 10 kilometers away from Umuahia Capital Territory.

Design of the study: The study adopted a descriptive survey: This was used to obtain information about the feeding pattern adopted by the undergraduate students, of the university.

Population for the study: The total population for the study comprised of 14779 undergraduate students of 2012/2013 session (Statistics from the office of the Registrar, Michael Okpara University of Agriculture, 2014), it has eleven colleges, with various programmes of study, Sample for the study; purposive sampling technique was employed for the selection of the college. Taro Yamen formular was adopted in the selection of the 399 respondents from the population.

Instrument for data collection: The instrument for data collection was questionnaire gotten from extensive literature review.

Validation of the Instrument: The questionnaire was validated by three lecturers from the Department of Home Economics/HMT, Michael Okpara University of Agriculture, Umudike.

Data Collection and Analysis Techniques: The 389 copies of the questionnaire were administered to the respondents through personal contact by the researcher and with the aid of 3 trained research assistants. Data collected was analysed using means and percentages, any item from 3.00 and above were accepted while mean rating below 3.00 were rejected.

The findings are summarized in the tables below:
 What are the feeding patterns presently adopted by the undergraduates:

S/N	Feeding patterns adopted	X	Decision
1	Eat three times every day	1.8	Rejected
2	Eat fruits and vegetables 5 meals daily	2.15	Rejected
3	Skip breakfast meals daily	3.32	Accepted
4	Always skip meals because of lack of time	3.36	Accepted
5	Skip meals because of weight control	1.83	Rejected
6	Skip meals because of religious reasons	1.83	Rejected
7	Eat in between meals	3.37	Accepted
8	Eat a lot of junk foods (empty calories)	3.38	Accepted
9	In between meals are eaten to make up for missed meals	3.10	Accepted
10	Eat cooked foods from home	2.26	Rejected
11	Obtain foods from canteen	3.10	Accepted
12	Eat only at lunch time	3.11	Accepted
13		3.23	Accepted
14	Eat snack every day	2.04	Rejected

Source: Field survey (20014)

Table 1: Shows the feeding patterns adopted by the undergraduate students of Michael Okpara university of Agriculture, Umudike, The mean ratings presented in table 1 shows that items 3,4,7,8,9,11,12 and 13 are feeding pattern adopted by the undergraduates

because they are above the cut off point of 3.00 while items 1,2,5,6,10 and 14 were below 3.00 cut off mark. The result of the analysis in Table 1 implies that there are many feeding patterns adopted by the undergraduate students.

Table 2 : Sustainable Strategies for Improving the Feeding Patterns of Undergraduates

S/NO	Sustainable strategies for improving the feeding patterns of undergraduates	X	Decision
1	Establish school environment that support healthy eating	3.11	Accepted
2	They should have access to healthy food opportunities and safe space facilities and equipment for healthy eating	3.31	Accepted
3	Encourage a climate that encourage and does not stigmatize healthy eating	2.72	Rejected
4	Government should subsidize their meals for healthy eating	3.50	Accepted
5	Bursary allowance should be given to students	3.37	Accepted
6	School meal programmes should be encouraged by the university authorities	3.20	Accepted
7	Ensure that students have only appealing, healthy food and beverage choices offered outside of the school meal programme.	3.10	Accepted
8	Marketing of healthier foods and beverages by the food vendors should be encouraged	3.17	Accepted
9	Encourage participation in school meal programme among all students	2.59	Rejected
10	Implement healthy education programmes that provides students with the knowledge, attitudes, skills and experiences needed for healthy eating	3.03	Accepted

Table 2 shows the sustainable strategies for improving the feeding patterns of undergraduates. The mean rating in table 2 shows that items 1,2,4,5,6,7,8 and 10 falls within the criterion mean of 3.00 and above as the sustainable strategies for improving the feeding patterns of undergraduates in Michael Okpara University of Agriculture, Umudike, while items 3,9 were below the criterion mean of 3.00, they are not sustainable strategies for improving the feeding patterns of undergraduates.

Discussion of findings: Findings of the study showed that there are many feeding patterns adopted by the undergraduate students. The findings revealed that some of the patterns were good while others are not good and healthy. The feedings on skipping of meals due to lack of time is not in agreement with Okpara and

Okponibuot (2013) who stated that regular meal consumption can have a multitude of positive health benefits, The study is also not in agreement with the American Dietetic Association ADA (2009) who also observed that the earlier in life individuals begin to eat regular breakfast, the more benefits they gain in terms of their health and nutritional status, including a lower risk for obesity. The study is in agreement with Yaman and Yabanci (2006), who stated that the reasons why students skipping breakfast are being late for school in the morning, getting up late for school in the morning, having no appetite and lack of time, Dickie and Bender. (1982) reported that people who skipped breakfast do less work, have difficulty in late morning hours. They further reported that students are often faced with one or more emotional imbalances as a result of skipping

breakfast. These occur because the brain cannot get enough energy when breakfast is skipped.

The findings on the item, they eat a lot of junk foods (empty calories) is also in agreement with the Ozdogan, Ozcelik and Surucuoglu (2010) who observed that students consumer a lot of empty calories for breakfast. They stated that the consumption of the foods regularly for breakfast is a very unhealthy habit because these junk foods only suddenly boost the energy level of the students for a short while and they do not add any nutritive value to their body systems. The findings of the study is also in agreement with the third National Health and Nutrition Examination Survey (2010), who reported that adolescent and young adults who skip breakfast have significantly higher body mass index (BMI) than those who eat breakfast. This has been explained to be due to the fact that breakfast eaters tend to make healthier decisions in food choice later in the day due to breakfast intake and this leads to a healthier lifestyle in the future. They further observed that after consuming breakfast, the next meal typically does not consist of heavy highly calories, foods because eating breakfast prevents over whelming hunger while those skip breakfast may have the over whelming urge to get highly fattening and highly caloric food.

The findings of the study corroborates the findings of food and Agricultural Organization (2009), who stated that the food habit of undergraduate student are characterized by skipping of meals, reduced or avoidance of certain nutritious foods or refusal to eat. They also observed that there is high consumption of caloric foods, alcoholic and cigarette. In addition, they observed that alcohol consumption represses the absorption of some nutrients in the body. In addition, they observed that alcohol consumption depresses the absorption of some nutrients in the body system. The study is also in line with the findings of Ibeanu, Onyechi and Onuoha (2012) who observed that in University of Nigeria, Nsukka campus that there is no University managed cafeteria, where nutritionally adequate meals are planned, prepared and served to students and this has caused the students to be eating empty calories foods each time they are hungry.

The findings on the sustainable strategies for improving the feeding patterns of undergraduate were accepted as sustainable strategies except item 3 and 9 which had mean rating below the criterion level of 3.00, the finding on items 4,5,and 6 which had the highest mean are very important strategies for sustaining the feeding patterns of undergraduates, This finding is in agreement with Ibeanu et.al (2012) who stated that the choice of meals of the students were greatly influenced by money available, hunger and the type of meal available at a time. They also noted further that time and money constraints could have contributed to the consumption of snacks and junk foods which are energy dense and low in other nutrients but if government can

subsidized their meals and bursary allowances made available, the undergraduate will feed sustainably well.

III. CONCLUSION

The study revealed feeding patterns adopted by undergraduate students of Michael Okpara University of Agriculture. It also revealed some sustainable strategies for improving the feeding patterns of the undergraduate students. The study observed that students skip meals because of lack of money, time and unavailability of good foods. It was also observed that the students indulge in eating empty calories foods that may not provide them all the nutrients needed for the normal functioning of the body and for academic work.

IV. RECOMMENDATION

Based on the findings that students have a lot of challenges in the institutions the following recommendation were made; There should be variety of social change campaign to advice the students on their feeding habits. Nutrition education teaching should also be given to the students from time to time since better nutrition means stronger immune system less illness and better health, Government should made bursary allowance available to students to enable them beef up their eating habits. Parent's salaries should be paid early so that they can attend to undergraduate students needs. Government should provided good and neat cafeterias to be manned by government officials in the institution.

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