

THE INFLUENCE OF NUTRITION EDUCATION ON DIETARY PATTERN AND EATING HABITS AMONG FEMALE STUDENTS OF THE FEDERAL POLYTECHNIC, ILARO.

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ABSTRACT

The study was designed to assess the influence of nutrition education on dietary pattern and eating habit among female students in the Federal Polytechnic, Ilaro. The specific objectives are to assess the socio-economic status of female students of the Federal Polytechnic Ilaro, to evaluate the sources of nutrition education knowledge of the female students and to establish the relationship between knowledge of nutrition education, dietary pattern and eating habit among the female students,

A total of 150 questionnaires were administered on 150 female students randomly selected from the East and West campuses of the Federal Polytechnic Ilaro. Findings revealed that (49%) of the respondent were within the age group of 23-27 years, majority (95.33%) were knowledgeable about the fact that nutrition education can affect their eating habits while food intake was affected by the monthly allowance allocated to them. 85% of the respondent have monthly income between #4000-5000. A flawed meal pattern was observed among the female students which are characterized by skipping breakfast, replacing lunch with snacks and eating out and food intake was at (50%) due to their monthly allowances while consumption of animal protein was low at (16%) . Standard deviation test revealed that there was an intermediate relationship between dietary pattern and eating habit based on the mean ($1.89 \approx 2$). The table of level of significance based on the analysis also showed that ($x\text{-tab}$) was 3.84 approximately 4 at 5% confidence level ($P < 0.05$) suggesting that out of every ten (10) female students at least four (4) of them have basic knowledge about their dietary pattern and eating habit.

***This project concludes** that Female students were knowledgeable about nutrition education, they get information about healthy foods from the internet. Despite these facts, majority of the students cannot describe their eating habit as healthy due to the fact that they skip meal and snack frequently. Therefore female students need to improve their dietary pattern so as to meet their dietary needs and prevent deficiencies of nutrients.*

Keywords: Dietary Pattern, Eating Habits, Nutrition Education Knowledge.

1.0 INTRODUCTION

Nutrition education is widely used for a range of population groups as a medium to deliver healthy diet and nutrition information. However, this type of intervention is still rarely implemented for polytechnic students(Arroyo *et al.*,2006).

Nutrition education is an integral part of health education which is one of the ways identified to prevent diet-related diseases (Arroyo *et al.*,2000).

Nutrition education achieves remit by providing information on good nutritional habits which lead to disease prevention. Nutrition is therefore a major modifiable determinant of chronic diseases (Anderson *et al.*,2004;Prell *et al.*,2006).

Rapid changes in physical growth and psychological development have placed female adults as nutritionally vulnerable groups with poor eating habits, that fails to meet dietary requirements.(Chin *et al.*2009).

Habit is a concept, it is a powerful force in determining the food we eat (Lewin 1942). According to Truswell *et al.*,1981 eating habit is an integral part of a person's lifestyle and related to other behavioral pattern which is a recurrent behavior not determined by hereditary, but with the help of nutrition education which is any combination of educational strategies accompanied by environmental supports designed to facilitate voluntary adoption of food choices and other food and nutrition related behavior conducive to health and well being (Contento 1998).

It has been observed from researches conducted, that polytechnic students tend to make their own food choices based on cost of food and availability of fast food. They lack knowledge of healthy food choices that may affect eating habits and nutritional status positively in West African countries (Gan *et al.*,2011).

It has been assumed that medical students would practice healthy dietary habits compared to non-medical students. Some studies have found otherwise and previous study in China revealed that medical students exhibited early risk factors for chronic diseases due to poor eating habits (Leung *et al.* 2005).

Gan, *et al* 2011, highlighted the presence of unhealthy eating behaviors and inadequate nutrient intake among undergraduate students. The study concluded that there was a need to promote healthy eating habits among female student to achieve a healthy nutritional status.

Chin *et al.*,2009, revealed that meal skipping; particularly breakfast, snacking and various weight loss dietary behaviors were some of the unhealthy eating behaviors depicted by female students. The study concluded that promotion of healthy eating was crucial for future health well-being.

Eating is vital in life and a major determinant of health hence, it is important to study this subject from its different perspectives. Most studies in eating and nutrition have focused on physiological aspects, but if dissociated from their pertinent social environment, it is believed to produce only limited knowledge and it is for this reason that cultural, psychological and social approach is necessary (Rozin *et al.*,1991).

Different attitudes towards food may have an effect on overall health and contribute to differences in non-communicable diseases (Rozin *et al*, 1991).

According to (Moore, 2012) Dietary patterns is defined as the quantities, proportions , varieties or combination of different foods and beverages in diets, and the frequency with which they are consumed.

Different dietary patterns can have effect on overall health since pleasure apparently acts as health promoters and worries can adversely affect health. Social and psychological components of eating included in the concept of eating attitude may be major health determinants. There is no difference associated to either race or social condition among students and the most important predictor is gender; females are more concerned with eating, weight and health (Rozin *et al.*, 1991.).

In some cases, a shift from a traditional eating pattern to a more Westernized diet has had some undesirable effects on health status (Cruz *et al.*,2000). Generally, there is a likelihood of an individual to change his or her personality, attitude and behavior when introduced to a new environment, dietary changes are related to length of exposure to a new environment and extent of social contact with people in the new environment. The new environment has an impact on their personality, attitudes and behavior hence their dietary habits (Worthing-robert *et al.* 2000).

In a case of West African Polytechnics, students make poor food choices due to lack of nutritional knowledge and understanding of their dietary requirements. There was prevalence of physical signs of malnutrition which indicated that the students were unhealthy and could impact negatively on their academic performance (Manwa, 2013).

The study conducted in Greece among university female students to determine their eating habits at or away from home, found that students living at home did not show major changes in their eating habits since resuming Institution (Cruz *et al.*,2000)

Students living away from family home, especially females have negative changes, they decreased their weekly consumption of fresh fruits, cooked and the raw vegetables, oily fish, sea foods, pulses and olive oil while they increased their sugar, wine, alcohol and fast food intake. This implied that moving away from home and assuming responsibility for food preparation and purchase for the first time affect eating habits. (Manwa, 2013).

However class schedules, food variety and physical activities for the students were not looked into which can also influence dietary patterns; studies on dietary intake and food pattern among female university students in Spain found that university population consumed a diet with too much proteins and fats as compared to the recommendations (Soriano *et al*, 2000).

There is paucity of information on polytechnic students in West Africa especially in Nigeria, polytechnic students make unhealthy food choices due to various circumstances including change of environment, cafeteria system, limited resources, busy class schedules, peer pressure and availability of junk foods may compromise the diets of the female students (Arroyo *et al.*,2000).

This study is designed to enlighten us on the influence of nutrition education on the eating habits and dietary pattern among female students in Federal Polytechnic, Ilaro.

Poor eating habits are a major public health concern among female students who experience transition to polytechnic life during which they are exposed to lack of time.

These factors pose a barrier against adoption of healthy behavior such as poor eating habit and substance abuse. (Nelson *et al.*,2008)..

Dietary patterns of young adults has been widely studied and reported in the literature as being associated with obesity, frequent snacking and meal skipping (Isa *et al.*,2011).It is perceived that poor eating habit has a lot of effects on health and arise from lack of knowledge of the cumulative effects of poor eating habit which may predispose student to diet related disease (Masuri *et al.*,2011).

This study is expected to reveal the nutrition education knowledge of female student in Federal Polytechnic, Ilaro and its influence on eating habits and dietary patterns

OBJECTIVES OF THE STUDY

This study aims to determine nutrition education knowledge of female students in Federal Polytechnic Ilaro and its influence on their eating habit and dietary patterns.

The specific objectives are to:

assess the socio-economic status of the respondents in the area of study.

evaluate the sources of nutrition education knowledge of the female students in Federal Polytechnic, Ilaro.

assess the eating habit and dietary patterns of the female students of Federal Polytechnic, Ilaro.

establish the relationship between knowledge of nutrition, eating habit and dietary pattern among female student in Federal Polytechnic, Ilaro.

2.0 MATERIALS AND METHODS

Well-structured questionnaires were used to determine the knowledge of the respondents in relation to nutrition education, their dietary pattern and eating habits.

SECTION A: Contained socio- demographic characteristics of the respondent such as age, level in school, course of study, and monthly allowances.

SECTION B: Contained questions on knowledge of nutrition education.

SECTION C: Contained questions on dietary pattern and eating habits

Random sampling method was used in selecting 150 female students from the East and West campuses of the Federal Polytechnic Ilaro and Female hostel.

2.1 ANALYSIS

The completed questionnaires were serially coded and the final analysis tabulated. Data were analyzed using Microsoft excel software package and SPSS (Statistical Package for Social Science) program.

3.0 RESULT

Socio- Demographic Characteristics

The table below showed the socio demographic characteristics of female respondents used for the study. As evidence from the table most (about 49%) of the respondents interviewed are within the active age range of 23-27 years. Most (58%) of the respondents are National Diploma students while 42.67% of the respondents are from Applied Sciences. The result also revealed that most (56.67%) of the respondents earned #3,000-#5,000 as monthly allowance.

Table 1; TABLE OF SOCIO-DEMOGRAPHIC CHARACTERISTICS.

Age Range	Frequency	Percentage(%)
18- 22 yrs	68	45.33
23 – 27 yrs	73	48.67
28 – Above	9	6

Total	150	100
Educational qualification	Frequency	Percentage(%)
ND	87	58
HND	63	42
Total	150	100
Course of study	Frequency	Percentage(%)
Applied Science	64	42.67
Environmental Studies	27	18
Management Studies	48	32
Engineering Studies	11	7.33
Total	150	100
Monthly Allowance	Frequency	Percentage(%)
2000-3000	28	18.67
4000-5000	85	56.67
6000-8000	30	20
8000-10000	5	3.33
10000- above	2	1.33
Total	150	100

Source: Field Survey August (2016)

NUTRITION EDUCATION KNOWLEDGE.

The table below showed the distribution of female respondents according to their Nutrition Education Knowledge as evidence from the table most (90%) or the respondents agreed that the amount of nutrient needed by a child is different from that of an adult. Most (91.3%) of the respondents agreed that each nutrient has specific use in the body. Moreover, all respondents (100%) agreed that all nutrients are available in food. 54% of the respondents sourced information about healthy food from the internet while 95.33% of the respondents are awareS that knowledge of nutrition education can affect eating habit.

Table 2: TABLE OF NUTRITION EDUCATION KNOWLEDGE

Amount of nutrient needed by a child is different from an adult	Frequency	Percentage(%)
Yes	135	90
No	15	10

Total	150	100
Each nutrient have specific use in the body	Frequency	Percentage(%)
Yes	137	91.33
No	13	8.67
Total	150	100
All nutrient are available through food	Frequency	Percentage(%)
Yes	150	100
No	-	-
Total	150	100
Where do you get information about healthy food	Frequency	Percentage(%)
Newspaper/Magazine	31	20.67
Internet	81	54
Television	23	15.33
Posters	12	8
Friends	3	2
Total	150	100
Are you aware that knowledge of nutrition education can affect eating habits	Frequency	Percentage (%)
Yes	143	95.33
No	7	4.67
Total	150	100

Source: Field survey (2016)

DIETARY PATTERN AND EATING HABITS

The table below showed the dietary patterns and eating habits of female students in Federal Polytechnic, Ilaro used for the study. The table revealed that 91.33% of the respondents agreed that fast food consumption will increase their weight and body mass, all the respondents (100%) felt that eating varieties of food provides nutritional benefit. However, 64% of the respondents cannot describe their eating habit as healthy. This is because 51.33% of the respondents consumed vegetable once a week, 49.33% consumed fruit once a week and 72% of the respondents skipped breakfast.

Table 3: TABLE OR DIETARY PATTERN AND EATING HABITS

Do you think fast food will increase your weight and body mass	Frequency	Percentage (%)
Yes	137	91.33
No	13	8.67
Total	150	100

Do you feel that varieties of foods provide nutritional benefits	Frequency	Percentage (%)
Yes	150	100
No	-	-
Total	150	100
Can you describe your eating habit as healthy	Frequency	Percentage (%)
Yes	54	36
No	96	64
Total	150	100
How often do you consume vegetables	Frequency	Percentage (%)
Daily	54	2.67
2-3 time a week	69	46
Once a week	77	51.33
Once a month	-	-
Total	150	100
Do you watch youth oriented programs relating to nutrition	Frequency	Percentage (%)
Yes	22	14.67
No	128	85.33
Total	150	100
How often do you consume fruits	Frequency	Percentage(%)
Daily	8	5.33
2-3 times a week	63	42
Once a week	74	49.33
Once a month	5	3.33
Total	150	100
Do you skip breakfast	Frequency	Percentage
Yes	108	72
No	42	28
Total	150	100

Source: Field survey (2016)

Table 4: RELATIONSHIP BETWEEN DIETARY PATTERN AND EATING HABIT

The below table showed the mean which is (1.89), the mean deviation which is (0.74), and standard deviation which is (0.46). From the table below there is an intermediate relationship between dietary pattern and eating habit base on the mean (1.89 ≈ 2) indicating that out of every five female respondents at least two have knowledge about the dietary pattern and eating habits.

X	F	FX	%	/d/	/d/	/Fd/	F(F/d)
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1	62	62	41.33	-0.89	-0.89	55.18	3421.16
2	56	112	37.33	0.11	0.11	6.16	344.96
3	19	57	12.67	1.11	1.11	21.09	400.71
4	12	48	8	2.11	2.11	25.32	303.84
5	1	5	0.67	3.11	3.11	3.11	3.11
	£F=150	£fx=284				£f/d=110.86	£F(F/d)=4473.78

£F=150, £Fx=284, £F/d=110.86, £F(F/d)=4473.78

$$\text{Mean} = \frac{\sum fx}{f} \quad \text{Mean} = \frac{248}{150}$$

=1.89

$$\text{Mean Deviation} = \frac{\sum f|d|^0}{f} \quad \text{Mean deviation} = \frac{110.86}{150}$$

=0.74

$$\text{Standard Deviation} = \sqrt{\frac{\sum f \frac{f}{d}}{f}} \quad \text{Standard Deviation} = \sqrt{\frac{4473.78}{150}}$$

= $\sqrt{29.83}$

=5.46

LEVEL OF SIGNIFICANCE BASED ON THE ANALYSIS

Sample= 2 (DIETARY PATTERN AND EATING HABIT)

Respondents = 150,

Error= (n-1)

XCal= significant calculated

XTab= significant tabulated

Sample =(n-1) i.e 2-1 =1

Respondents =150-1= 149

Error =(n-1) i.e 150-1 = 149

Total (XCal) = 149+149+1 =299

From the statistical table, the level of significance (X-tab) is 3.84 approximately 4 , indicating that at 5% confidence level (p<0.05), which showed that out of every 10 female students at least 4 of them have basic knowledge about their dietary pattern and eating habits.

DISCUSSION

The major findings of the study which was carried out on one hundred and fifty female students in Federal Polytechnic, Ilaro. Result of the socio demographic characteristics showed that high percentage (52%) of the respondents have National Diploma qualification compared to Higher National Diploma qualification and this is consistent with the earlier report of Okeke,1987 who reported that the development in society depended on the educational system that it follows. Knowledge, skills and ideas are developed through formal and informal education. Most (49%) of the respondent are within the active age of 23-27 years while 46% and 6% are within the active age group of 18-22 and 28 years and above respectively.

Moreover, most of the respondents are single, they receive monthly allowance from their parents or guardian and it was observed from the result that their monthly allowances were low between (~~₦3000-₦5000~~) therefore affecting their food choices, dietary pattern and eating habits.

Based on the analysis majority (54%) of the respondent gets information from the internet, this is in agreement with the opinion of (Arroyo *et al* ,2000) who stated that nutrition education is widely used by the range of a population group as a medium to deliver healthy diet and nutrition information while majority (95. 3%) of the respondents are knowledgeable about the fact that nutrition education can affect their eating habits. This findings is in agreement with the opinion of (WHO, 2006) that reported that people learn behavior regarding etiquette ,meal and snack pattern acceptable foods, foods combination and portion size. Furthermore Hollingworth,1983 concluded that the aim of nutrition education is to allow people have adequate knowledge about composition of foods and human physiological needs to be able to make sound choices about the food they eat.

The result obtained from nutritional fact”we eat to live ,grow .keep healthy and well” is consistent with the earlier report of (Johnson,2003) that reported that all humans eat to survive. They also eat to express appreciation for a sense of belonging, as part of the family custom and self realization. However, majority(91%) of the respondents are aware that fast food will increase their weight and body mass as far as dietary pattern and eating habits are concern. This is consistent with story *et al*,2005 that reported that high fat intake during adolescence is associated with high risk of heart disease in adulthood , therefore an obese adolescent is likely to become an obese adult and lower intake of calcium during this stage is associated with lower bone mass for women in later age.

The result also showed that dietary pattern and eating habit of the respondents are bad because they prefer to take more of fast food than cooking and eating adequate diet, also the respondents consider lunch as the most important meal in the day. This finding is in agreement with (Moore *et al*,2012) that said meal skipping is common among adolescent especially during middle and late adolescent .Breakfast is the most commonly skipped meal and it is attributed to lack of time, examination, lack of appetite and dieting to lose weight.

The result obtained on nutritional fact “varieties of food provide nutritional benefit” indicate that all the respondents agreed with this fact and is consistent with the earlier report by the (Department of Health and Human Service: 2008) which reported that individuals should aim to meet their nutritional needs through healthy eating pattern that include nutrient dense foods. Foods in nutrient dense form contain essential vitamin and minerals and also dietary fiber and other natural occurring substances that may have positive effect on one’s health.

Consumption of fruit and vegetable was inadequate but fruit juice intake was high (45%) while consumption of animal protein was low (16%) especially dairy product. This is in agreement with Manwa,2013 who said that undergraduate students living away from home especially female have positive changes . They decrease their weekly consumption of fresh fruits and vegetables while they increase their sugar, alcohol, junks and fast food intake.

The result also revealed that,(53%) of the respondents consume fast food at least 2-3 times weekly, this is consistent with the report of Delisle *et al*,2009 who reported that most of this fast food sell junks consumed by most undergraduate students contain dense calories which are cancer promoting and this poor eating habit may predispose them to diet related diseases.

Moreover, standard deviation test showed intermediate relationship between dietary pattern and eating habit based on the mean ($1.89 \approx 2$), which showed that out of every 5 female students at least 2 have basic knowledge about dietary pattern and eating habit. The table of significance based on the analysis shows that (X-tab) was 3.84 approximately 4,at 5% confidence level ($p < 0.05$) out of every 10 female students at least 4 of them have basic knowledge about their dietary pattern and eating habit.

4,0 CONCLUSSION

Based on the research findings, it was observed that majority of female students are knowledgeable about Nutrition Education. This study also revealed that most of the respondents get information about healthy food mostly from the internet, despite these facts; majority of the students cannot describe their eating habit as healthy due to the fact that they skip meal and eat snack frequently. Moreover, the female students eating habits was affected by the level of income generated. It can also be concluded that Nutrition Education knowledge is best method to impact knowledge on female students in Federal Polytechnic, Ilaro. Nutritional programs help reduce the rate of food fallacy, poor eating habits and increase a healthy dietary pattern.

RECOMMENDATION

The finding of the study strongly point to the need for implementation of more nutrition education programs for female students in the institution which can later be uploaded to internet for female students to make more inquiry about nutrition education ,good eating habits and dietary patterns .

- Curriculum planners should include more food base topics in existing subjects which are the means of nutrition information in institution which would be meaningful by using adequate teaching aid such as nutrition posters and food models, through this more knowledge .attitude, practices on good eating habits and dietary patterns would be imparted on female students in Federal Polytechnic, Ilaro .
- Parents should increase the rate of monthly allowance allocated to their children which is an excellent medium for them (not skipping meals) to practice good eating habits and

improve dietary patterns as well as reducing the level of malnutrition to the barest minimum.

REFERENCES

- Arroyo I.M, P.A.M. Rocardio, A.L. Ansotegui, A.E. Pasual, B.I salces and O.E. Rebato, 2006
Diet quality, overweight and obesity in universities students. *Journal of Hospital. Nutrition.*, Volume 21: page 673- 679.
- Johson 2003., influence addoscent eating patterns and habit the importance of family Meals., *journal of Adolescent Health*, 32, 364-373.
- Cruz, J.A,(2000), Dietary habits and nutritional status in adolescent status in adolescent over Europe, Southern euopr. *European Journal of Clinical Nutrition.*, 54: 529-535.
- Delisle, H.F., J. Vioque and A. gill., 2009. Dietary patterns and quality west African Immigrants in Madrid *Nutritional Journal* Volume 8: page 33.
- Conteto (2007) *Nutrition: Linking Theory, Research and Practice* Publisher, 2007.
- Gan WY, Mohal NM, Zaliah MS, Hazizi AS: Difference in eating behaviors, dietary and Body weight status between male and female Malaysian University students. *Malaysia journal of Nutrition*. 2011, Volume 2: page 213-228.
- Manwa, P.M, Johnson M.E (2013) The impact of consumption of fruit and vegetable on adolescents Undergraduate students. *Zimbabwe Journal of Food and Nutrition*. Volume 2: page 450-490.
- Moore, L., Diez Roux, A.V., Nettleton, J.A. & Jacobs, D.R.,(2008). Association of the local food environment with dietary quality- a comparison of assessments based on surveys and geographical information systems. *America Journal of Epidemiolody*, 167(8), page. 917-924.
- Okeke, B.S. (1987). *Educational Administration and Management, the Nigerian Factors*, Onitsha, Meks Plc.
- Story, M.D. Neumark-sztainer and S. French,(2002). Individual and environmental influences on adolescent eating behaviours. *J. AM. Diet. Assoc.*, 102: 40-51.
- Robinson Corine, H. (1973) *Normal therapeutic nutrition* 14th edition pg.365-366. Published By the macmillian company 806 third Avenue, New York.
- Rozin, P., fischer, C., Imada, S and wrzersniewski A.(1991). Attitude to food and the role

of food in life in the U.S.A, Japan, Flemish, Belgium and France: possible implication for the diet-health debate. Page 33: 163-180.

WHO,(2006) Adolescents nutrition: A review of the situation in Selected south east asian countries. Retrieved from www.searo.who.int/.../nutrition

For health-and-development 6 nutritional issues among adolescents pdf. Accessed On 17th April. 2011.