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Changing Dietary Behaviour and Health Outcomes among Migrants in Aba Urban, Nigeria: A Mixed Research Aproach

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ABSTRACT
Environmental changes orchestrated by the presence of factories, industries, and other business opportunities in urban areas could alter migrants' feeding habits from traditional foods to fast foods, canned foods, and even foods from food vendors. This study investigated changing dietary behaviour and health outcomes among migrants in Aba Urban. The study tried to: identify the differences in the foods consumed in rural and urban areas; find out the types of food, frequency of consumption and health outcomes; and explore the effect of eatery environments on migrants' health. It was hypothesized that there is no significant relationship between healthy diet and reduction in the risk of life-threatening diseases. The mixed- method research design was adopted. Data were collected through questionnaire and Focus Group Discussions. Multi-stage sampling procedure was used to select 600 respondents for quantitative study while 8 FGDs were conducted. The quantitative data were processed using SPSS Version 20.0 and analyzed using descriptive and inferential statistics. The qualitative data was analyzed with Content Analysis. The hypothesis was tested using Correlation. The findings showed that Aba migrants eat foods different from what they eat in their villages and these foods come mainly from food vendors. Aba migrants feed healthier than they were used to, and their eating environments are slightly healthier than what obtained before they migrated to Aba, hence, less vulnerable to diseases. There is a statistically significant relationship between the foods migrants consume and reduction in vulnerability to life-threatening diseases (p-value < 0.022). It was therefore recommended that an intensified awareness creation on the need to increase the rates, to which migrants maintain ties with village relatives, should be mounted in Aba markets and parks to minimize patronage to food vendors for sound health.
Keywords:Changing, Dietary behaviour, Health Outcomes, Migrants, Aba urban

INTRODUCTION

One of the most phenomenal features of man is their ability to move from one place to another. Thus, man has been noted to be always on the move from one geo-location to another in search of greener pastures and better socioeconomic fortunes. In fact, the search for more favourable conditions has remained the original and primary reason for migration among humans. Human migration is the movement of people from one place to another with the intentions of settling permanently or temporarily at a new location. In contemporary times, migration has become prevalent especially rural-urban migration. According to the Organization for Economic Cooperation and Development (OECD) (2019), there is an increase in overall migration flows in G20 countries, as more than 10million people migrate permanently or temporarily in G20 countries in 2019. In sub-Saharan Africa, it is reported that people move in droves to urban centres on daily basis. [1] reported that a lot of people are moving to urban centres in search of greener pastures and to escape rural poverty. Migration is often seen as a survival strategy utilised by the immigrants who are usually from poor, rural settlements. These migrants have a change in their traditional and customary ways of life, including dietary and feeding habits. That is to say that they normally drop their hitherto dietary behaviour in favour of

the dietary behaviour of their host locality. Thus, an assessment of the effects of migration on the dietary behaviour and health outcomes of immigrants have become germane, pertinent and relevant as migration robs off immigrants, certain lifestyles which they were accustomed with. According to [2], migration often leads to lifestyle, psychological and social changes. In most cases, the immigrants usually adopt new dietary behaviour vis-à-vis their new environment, schedules, work practices and itinerary. For instance, as most immigrants become highly upward mobile, they may hardly have time to prepare their meals and thus, may resort to eating in restaurants and other fast food centres. Furthermore, other immigrants develop social relations and circle of friends and are acculturated into certain dietary behaviours of their relationship cycle such as drinking of beer and other alcoholic beverages. It is evident that rural-urban migration is usually accompanied by environmental and lifestyle changes. This change in our clime, usually involve the adoption of 'western' and urbane dietary and life style changes, which are predominant features of urban centres. To this end, people tend to eat out of their homes a lot, skip their breakfast more frequently, consume more highly processed foods such as instant noodles and other canned foods, and drink more sugar based beverages and carbonated drinks. [2] captured this when they averred that most migrants "are susceptible to s rapid shift towards high-energy diet with emphasis on convenience foods such as snacks and sweets, leading to [high] intake of carbohydrates and lipids." These diets are high in sodium, saturated fats and low in fruits and vegetables. This is against the consumption of traditional diets made up of highly nutritious whole foods, fruits and vegetables that are well cooked and prepared. [3] opines that the shift in dietary and feeding patterns can be seen as a dietetic transition, which in general marks a shift from relatively indigenous diet, towards more industrialized ones. The emphasis on researches on this migration induced nutritional transition often has consequences for human health. This is so because diet has been found to be a potent contributor to chronic health challenges and diseases. As observed by [3], this nutritional and lifestyle changes is associated with chronic diseases such as obesity, diabetics, cancer, respiratory and cardiovascular diseases and mental health problems. In the light of above, some researches have been carried out to investigate changing dietary behaviour and health outcomes vis-à-vis migration. [4], in their study, observed that there was a higher sodium intake among migrants than rural participants. Furthermore, [5] discovered that there were varied health effects as a result of dietary changes on international migrants. Within our milieu, a cursory observation will reveal that there are myriad of health challenges among urban dwellers. It is observably evident that there's an increase in health problems such as hypertension, diabetics, obesity, kidney diseases etc. within our society. Furthermore, the nutritional and dietary composition of foods in most urban areas comprise of highly processed foods which have been identified as injurious to health. Most urban dwellers are highly upwardly mobile and therefore become constrained to prepare their foods. To this end, they sometimes skip breakfasts and often eat out in restaurants or (in popular Nigerian parlance), *Bukka* and *mama-put*. These dietary behaviours have been known to have deleterious effects on the health of people. To this end, it becomes compelling to engage in a research excursion to unravel or investigate the health outcomes of the changing dietary behaviour among migrants in Aba urban.

Objectives of the study

The specific objectives of the study are as follows:

1. To find out if there is any significant difference between the type of food eaten in the rural area and that eaten in the urban area
2. To identify the type of foods eaten by the Aba migrants, frequency of

Consumption and their health outcomes.
3. Explore the effect of the eatery environment and their health outcomes among migrants in Aba urban.

Hypothesis

There is only one hypothesis for this study as thus:

1. There is no significant relationship between healthy diet and reduction in risk of life threatening diseases.

Literature Review

Differences in Types of Food Consumed by Migrants

When people migrate to urban areas, they normally jettison their traditional foods (such as Cocoa yam, Three-Leaf, Yam, Cassava, African Salad, etc) and embrace the urban diets (such as pizza, hamburger, noodles, cookie, snacks and soda) which are Western oriented. [6] in their research, reported that there exist a shift in the nature and type of food consumed by migrants as against what they used to eat. Two major factors account for this shift. First is nutrition transition and the other is dietary acculturation. The former is an outcome of the industrialization of food driven by the globalization of food markets (e.gMacDonalds). This has seen an increased supply of cheap convenience foods that are ultra-processed, with high content of sugar, fat and salt. In essence, nutrition transition is the increased consumption of highly processed convenience foods such as snacks, sugary drinks/soda, meat and dairy, and a reduced intake of whole grains, legumes, fruits and vegetables [7]. The other factor, dietary acculturation, has to do with the adoption of food choices and eating behaviour of the host locality by migrants. This means that migrants tend to emulate the foods and dietary pattern of their host, and overtime adopt it as an acquired behaviour.

In rural communities where people migrate from, their meals usually comprise staple foods such as plantain, cassava, yam, corn, potatoes and rice, with a sauce (soup or stew) usually made with palm oil, tomato, onion, pepper and assorted types of vegetables. In-between meals were lacking except for the consumption of fruits such as pineapple, orange, mango etc. Water was the most commonly taken drink. Alcoholic beverages were mainly palm wine. In urban areas, the cuisines are largely factory processed, high energy density, fat-rich foods and sugary drinks. Foods such as biscuits, noodles, pasta, chips, candy, snacks, pizza, shawarma, sweetened cereals and soda are common among urban dwellers [8].

Job, Dietary Behaviour and Health Outcome

Urban jobs are mostly sedentary, and low physical activity jobs that doesn't involve the physical tasking or exercising of the body as obtained in rural settings. Most urban jobs involve limited amounts of physical activity or light even levels of physical activity such as walking or standing. Most urban dwellers are middle-class and high class income earners. Urban workers tend to move out for work early in the morning and come back home late in the evening. When they retire home, most of them are usually exhausted and may not have the energy to cook food. Thus, they resort to eating out and consumption of fast foods. Most urban workers skip breakfasts, eat junks and take soda and other sugary drinks. The nutrition transition towards foods rich in saturated fat and sugar, which, combined with lower levels of physical activity and sedentary behaviour, lead to a rise in overweight, obesity and nutrition-related non-communicable diseases (NR-NCD) including type 2 diabetes and CVD [8]. Migration is a phenomenon which significantly shapes/affects the dynamics of a people's way of life and behaviour. Migration more often than not, leads to changes in the personal and social domains of migrants [9]. Migrants are usually faced with a

plethora of challenges upon arriving their destination. Some of these challenges include accommodation, job, education and food. Most importantly, migrants encounter food acculturation and dietary transition brought about by unavailability of their traditional foods in their new locality, as they have to adopt the dietary pattern of their new locality. This is made possible by lack of nutritional literacy and information concerning salutary dietary choices. Furthermore, migrants face the hurdle of navigating an urban environment where sedentary lifestyle and processed high-energy foods are prevalent. To buttress this point, [10] opines that most migrants in urban areas encounter high processed foods rich in saturated fat, refined sugar and sodium (salt), as against foods rich in fibre, vegetables, fruits and whole grains that they consumed in their traditional localities. The health implication of this dietary transition among migrants and its outcome on their health and general wellbeing has been of interest to researchers. This is particularly so given that migrants are generally healthier when they arrive their destination than when they have settled down [11]. This is often referred to as the "healthy migrant effect". Therefore, researchers seek to understand the various derivatives that impact on the health outcomes of migrants, vis-à-vis their changing dietary behaviour.

Migration, Eatery Environment and Health Outcomes

The ever busy and tight schedule of urban life presents a challenge on food needs and choices among urban dwellers, especially new migrants. Most urban dwellers engage in work activities that keep them outside their homes for a long part of the day. This makes it difficult for them to prepare their foods and often resort to eating out. Eating out means the choice of eating food procured from a food vendor other than food prepared or wholly cooked at home. Eating out involves eating in restaurants, bars, or in *mama put and bukka.* Eating out could also involve buying food from local restaurants or grocery and eating it at home [2]. The eating environment, which encompasses the entire ambience where food is eaten [8], plays a role in food choices and food consumption decisions which impacts on the health outcome of individuals. In most cases, individuals either eat in well-furnished, posh restaurants, such as Crunches, Kilimanjaro and Genesis, or in roadside food joints (bukka) or itinerant food vendors (mama put). The latter is usually in decrepit environments. Substantial evidence from research suggests that eating out can be injurious to health [9]. Consumption of fast foods has been linked to the growing incidence of obesity, diabetes and CVDs [4]. For instance, [6] reported that the consumption of fast foods has been linked to the growing incidence of obesity, diabetes and CVDs. This is attributable to the high caloric content of convenience foods, with high sugar and sodium content. Furthermore, food from decrepit, dirty environments can cause typhoid, dysentery and cholera.

METHODOLOGY

The study adopted a mixed research design. The design was considered appropriate because it enabled a large population to be studied at a relatively short period of time and it allowed the researchers to employ both quantitative and qualitative methods to generate extensive data for the study. The study was carried out in Aba Urban. Aba Urban cut across Aba South, Aba North and some parts of Osisioma and Obingwa. It is made up of: 1. Crown town as a secondary locality, 2. Ndiegoro, 3. Eziukwu, 4. Abaukwu, 5. Okpojiaku, 6. Umungasi, 7. Ogborhill, 8. UmuolaEgbelu, 9. Ehere and 10. Obuda. Aba has an estimated population of about 2,534,265 people comprising both the indigenous people and migrants. The area has a distinct settlement pattern. The well built up area in the urban made up of streets and roads. It is located within the forest belt of Nigeria; temperatures range from 20^{0}c to 36^{0}c. Aba residents are mainly traders, Christians and their major language is Igbo.The total population of Aba Urban

was 2,534,265. However, the target population of the study was 15,004 migrants being the population of some six (6) relevant population categories for this study which cut across the study area. The population categories were as follows:- market associations, road transport workers, bankers, civil/public servants, artisans, and teachers. The target population is shown in the table 1.

Table 1. Target Population of the Study

	Market Association	***Road Transport Workers***	***Bankers***	***Civil/Pub Servants***	***Artisans***	***Teachers***	***Total***
Crown Town	2500	720	528	400	1002	250	5,400
Ndiegoro	1530	405	202	370	805	223	3535
Umungasi	1600	218	211	200	680	110	3019
Eziukwu	1005	500	300	270	760	215	3050
Total	6,635	1843	1241	1240	3247	798	**15,004**

Source: Official records/registers of market men/women associations, official records/registers of road transport workers associations, official records/nominal rolls of banks, official records/registers of ministries and parastatals, official records/registers of artisans, and official records/registers of schools

The study is strictly on dietary behaviour and health outcomes among migrants in Aba Urban focusing on the crown town of the Aba, Ndiegoro, Umungasi and Eziukwu. The main reason for inclusion of these was because of the availability of occupationally homogenous built-up areas in the places. The sample size for this study was 600 migrants. This was statistically generated by using Taro Yamane Statistical method of determining sample size as thus:

$n = N/1+N(e)^2$
where: n = Sample Size
N= Target Population
e = error of sample (it could be 0.10 down to 0.01, but in this work, 0.04 was used)
1 = unity or constant
Therefore :
n = 15004 / 1+15004 $(.04)^2$
n = 15004/ 1+15004 (0.0016)
n = 15004 / 1+ 24.0064
n = 15004 / 25.0064
n = 600 migrants

The multi-stage sampling procedure involving cluster sampling, purposive sampling, proportionate stratified sampling and availability sampling techniques was adopted in the selection of respondents for the study. At first, Aba Urban was clustered into ten (10) clusters such as 1. Crown town as a secondary locality, 2.Ndiegoro, 3.Eziukwu, 4.Abaukwu, 5.Okpojiaku, 6.Umungasi, 7.Ogborhill, 8. UmuolaEgbelu, 9.Ehere and 10.Obuda based on their distinct settlement patterns. Secondly, four (4) areas out of the 10 clusters were purposively selected based the prevalence of well occupationally homogeneous built up areas. The selected areas were the Crown Town, Ndiegoro, Umungasi and Eziukwu. In order to collect appropriate data for the study, six (6) relevant population categories were created in each of the four areas. The members of each population formed the respondents for the study. The stratified proportionate sampling technique was used to select the respondents from each population category in view of the fact that the population categories did not have equal size. This is shown in table 2. The

availability sampling was then used to select the actual respondents from each population as shown in table 2.

Table 2: Sample Size by Study Areas

Selected Areas in Aba Urban	*Population Category*	*Total*	*Percentage*	*Proportionate calculations = (Row Total / Grand Total) * n*
Crown Town	Market Associations	2500	17%	100
	Road transport workers	720	5%	29
	Bankers	528	4%	21
	Civil/public servants	400	3%	16
	Artisans	1002	7%	40
	Teachers	250	2%	10
Ndiegoro	Market Associations	1530	10%	61
	Road transport workers	405	3%	16
	Bankers	202	1%	8
	Civil/public servants	370	2%	15
	Artisans	805	5%	32
	Teachers	223	1%	9
Umungasi	Market Associations	1600	11%	64
	Road transport workers	218	1%	9
	Bankers	211	1%	8
	Civil/public servants	200	1%	8
	Artisans	680	5%	27
	Teachers	110	1%	4
Eziukwu	Market Associations	1005	7%	40
	Road transport workers	500	3%	20
	Bankers	300	2%	12
	Civil/public servants	270	2%	11
	Artisans	760	5%	30
	Teachers	215	1%	9
Total		**15,004**	**100%**	**600**

n = 600

For the qualitative data (Focused Group Discussion), 8 FGDs comprising 10 people in each group were conducted in the 4 areas in Aba Urban. The participants were selected based on gender and occupational homogeneity as follows:

1. Four male FGDs for transporters (one from each of the areas)
2. Four female FGDs for traders (one from each of the areas)

Questionnaire and focus Group Discussion were used to collect data for this study because of the need for a mixed-method research which in this case was 50% quantitative and 50% qualitative. The questionnaire specifically was used to collect quantitative data and it was highly structured with only few unstructured questions. It was divided into two major parts: the first part is the socio-demographic characteristics of the respondents while the other addressed the substantive issues in changing dietary behaviour and health outcomes among migrants. The focused group discussion on the other hand was used to gather qualitative data to compliment the quantitative data for further insights into the changing dietary behaiours and health outcomes among migrants in Aba. The FGD guide was highly unstructured questions with necessary probes. The questionnaire was administered by the four researchers themselves with the aid of two research assistants. The research assistants were recruited on the basis of their ability to read, write and understand both English and Igbo languages as the major languages spoken in the areas. They were trained for two days on the objectives of the study, relevance of the study, administration and retrieval of questionnaire. The focus Group Discussion was conducted by the researchers themselves, one person (for male and female FGDs) in each of the areas while others recorded and took notes as the FGDs were on. The quantitative data was processed with SPSS Version 20. The socio-demographic data and the substantive issues were analyzed using descriptive statistics such as simple frequency tables, percentages, graphs and charts. Inferential statistics particularly, regression and correlation analysis were used to test the stated hypotheses and predict the relationship between the independent and dependent variables respectively. The qualitative data were analyzed using content analysis which is a thematic analysis in which transcripts were edited and coded in line with the objectives of the study in order to compliment quantitative data.

RESULTS

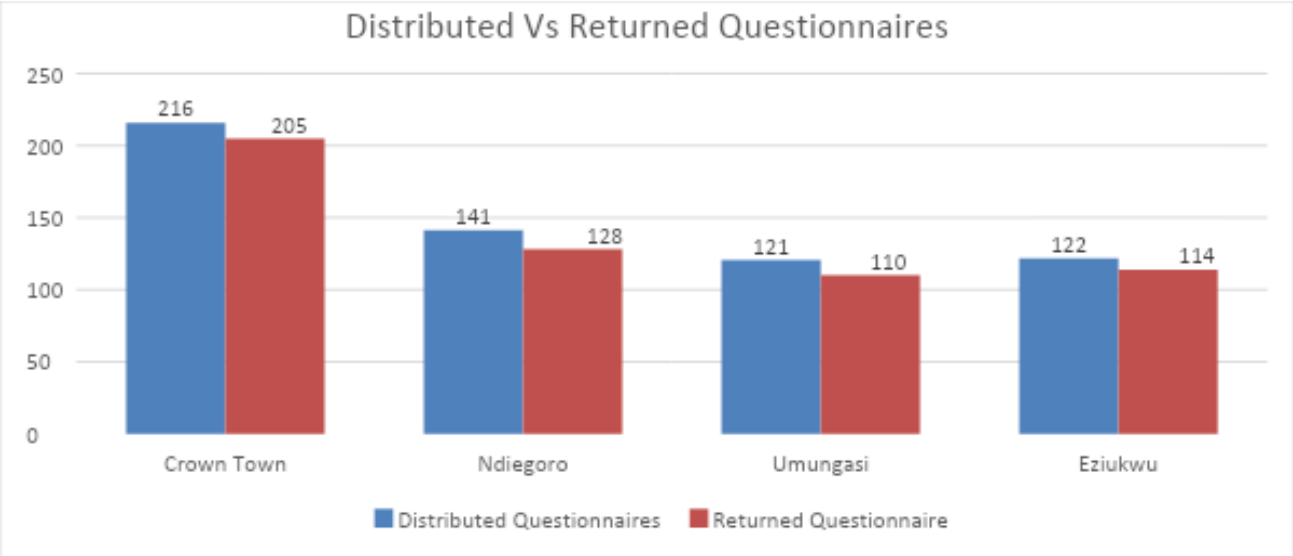

Fig. 1: Distributed and Returned Questionnaire

Fig. 1 shows that more questionnaire were distributed and retrieved in the crown Town 216 and 205 respectively because of the large number of migrants in the area as the heart of Aba, than other areas. The retrieval of the questionnaire however shows a high retrieval rate across the board.

Socio-demographic characteristics of the respondents

The socio-demographic characteristics of the respondents are presented in Table 3.

Table 3: Socio-Demographic Characteristics of the Respondents

Description	***Demographic Variables***	***Frequency***	**Percentage *(%)***
Distribution of Respondents by Gender	Male	290	52
	Female	267	48
	Total	**557**	**100**
Distribution of Respondents by Age	15 – 25	56	10
	26 – 36	117	21
	37 – 47	128	23
	48 – 58	150	27
	59 and above	106	19
	Total	**557**	**100**
Distribution of Respondents by Marital Status	Single	117	21
	Married	351	63
	Divorced	22	4
	Separated	28	5
	Widowed	39	7
	Total	**557**	**100**
Distribution of Respondents by level of Education Completed	No education	39	7
	Primary	139	25
	Secondary	206	37
	Tertiary	173	31
	Total	**557**	**100**
	Public servant	84	15
Distribution of Respondents by Occupation	Civil servant	61	11
	Trader/business	217	39
	Self employed	84	15
	Artisan/tradesman	39	7
	Unemployed	39	7
	Others	33	6
	Total	**557**	**100**
Distribution of Respondents by Income	10,000 - 500,000	373	67
	501,000 - 1,000,000	95	17
	1,000,001 - 1,500,000	72	13

	1,501,000 and Above	17	3
	Total	**557**	**100**
Distribution of Respondents by Number of Years Lived in Aba	1 - 10 years	206	37
	11 - 20 years	117	21
	21 - 30 years	84	15
	30 years and above	150	27
	Total	**557**	**100**
Distribution of Respondents by Religion	Christianity	535	96%
	African tradition	17	3%
	No religion	6	1%
	Total	**557**	**100**

Source: Field Survey, 2018

Table 3 shows the gender distribution of the respondents under study. The result shows that 52% of the respondents are male while 48% are female. The table also shows the age frequency and percentages of responses under study. The result shows that 150(27%) of the respondents are aged 48-58 years while 56(10%) are aged 15-25 years. This means that more of the respondent ages lie between 48yrs to 58yrs than in other age categories. Table 3 still shows the marital status of the respondents under study. The result shows that 351(63%) of the respondents were married while 22(4%) were divorced. This shows that a majority of the respondents under study were married men and women. Table further shows the educational level of the respondents under study. The result shows that 206(37%) are secondary school certificate holders while 39(7%) are no formal education at all. This shows that more of the respondents under study are secondary school certificate holders. Table data also show the occupational status of the respondents under study. The result shows that 217(39%) of the respondents are traders/business men and women while 33(6%) are in other occupations outside trading, public service, artistic works but not unemployed. This shows that the study area is more of a commercial city as more of the respondents are traders/business people. Table 3 further shows the annual income of the respondents under study. The result shows that 373(67%) earn between N10,000-500,000 per annum while 17(3%) earn 1,501,000 Naira and above annually. This shows that a majority of the respondents live below N100,000 ($2,597) annually, which is N2,739 ($7.1) daily. This implies that the respondents under study live above extreme National Poverty Line (NPL). Data in table 3 also show that 206(37%) of the respondents have stayed between a year and ten years in Aba while 84(15%) have stayed between 21-30 years in Aba. This shows that more of the respondents have stayed between one year and ten years in Aba as migrants. Data in table 3 finally show that 535(96%) of the respondents are Christians while 6(1%) are atheists (no religion).This shows that the study area is dominated by Christians.

Analysis of Specific Objectives

Changes in the Type of Diets (Foods) Eaten in Urban and Rural Areas

Table 4: Since you came to Aba, has there been any significant change in the type of food you eat?

	Frequency	*Percent*	*Cumulative Percent*
Yes	373	67%	67
No	184	33%	100
Total	557	100	

Field Survey, 2020

Table 4 shows that a majority of the respondents 373(67%) have experienced changes in the type of food they now eat as migrants while 184(33%) have not. This shows that a majority of migrants in Aba eat foods different from what they eat in their places of origin. This corroborated the qualitative data as many of the FGD participants expressed their inability to access the exact foods they were used to in their villages and communities. A participant for example said:The kind of food that we eat in the village in the morning is mainly garri and Akpu, hardly do you see anyone eating rice in the morning unless it is the leftover from the dinner but nobody has such time to cook rice in the morning in the village. Many people use Akpu or Garri as breakfast in the village but here in the city you hardly see someone using Akpu or garri as breakfast except the person is an elderly man; no young man does that **(FGD/04/03/2020/Transporter).**

Another participant also narrated as thus: Ehh.., mostly in Anambra, we eat cocoyam (Ede), we use Achi or Ofo to cook soup but here, hmm, we use a different thing..., that's the difference **(FGD/08/03/2020/Trader).** One of the participants further explained that there are also changes in the ways and manner some of the native foods found in Aba are prepared different from how they are prepared in their areas of origin; the participant said:

> Eh...yes! If you come to that whatever one cooks in his house is special and different from the ones one buys from outside. The food that someone else cooked, you don't know how she cooked it but one is always careful when one is cooking the food that one will eat himself, and such person will eat in the quality and manner that will nourish his body but the one from the food vendors is "cut and join" or "wait and take' (*chere were)*, any way you see it you take it so that you will continue what you are doing
>
> **(FGD/04/03/2020/Transporter).**

It is obvious from the narratives that migrants in the area of study depend so much on food vendors unlike what was obtainable in their communities of origin and such could have implication on their health.

Type of Diets, Frequency of Consumption and their Health Outcomes

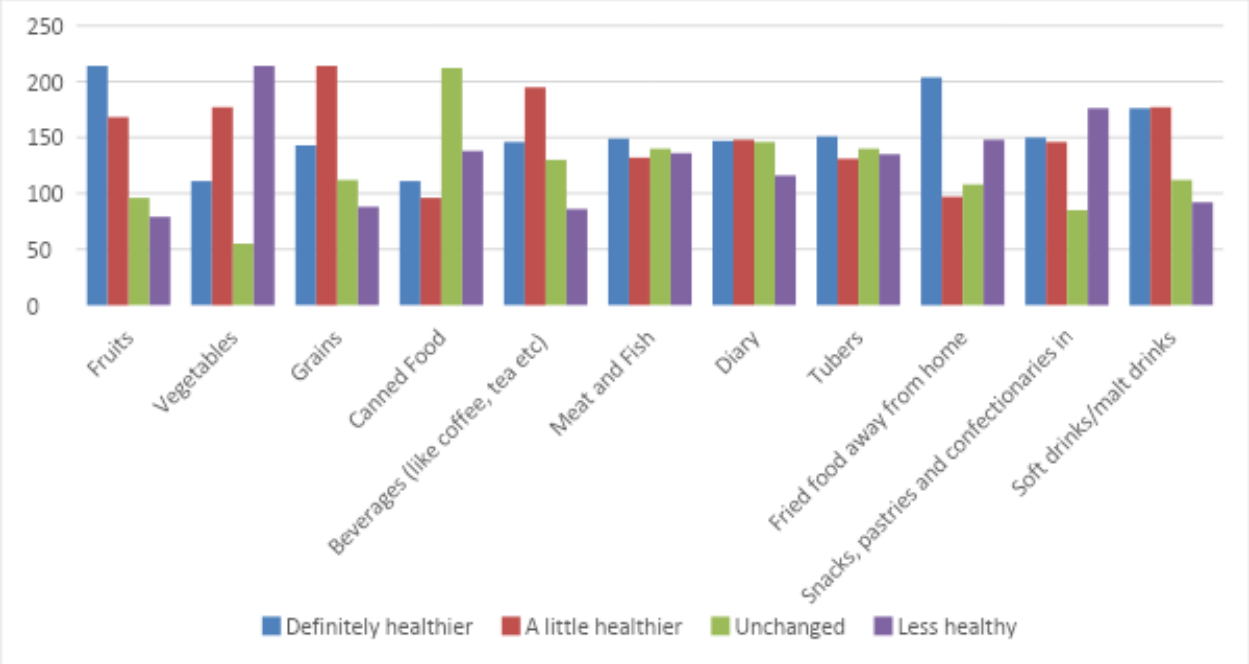

Fig. 2: Types of Food, Frequency of Consumption by Migrants and Health Outcomes

Fig. 2 shows the eating habit of the respondents under study on the listed type foods in the last 6 months. Responses from the respondents show that 27.8% eat definitely healthier than before while 21.8% still have their eating habits unchanged. This shows that more migrants in the area of study feed healthier now than they used to in their areas of origin. This is an indicator that the respondents live above extreme National Poverty Line. It was however more specifically observed that more of the healthy feeding migrants eat more of fresh fruits (26%), vegetables (24%), meat and fish (24%), grains (23%), and beverages like coffee, tea, etc (23%) respectively at least once a day even though they consume tuber-related foods (carbohydrates) 3-4 times daily. It is important to note that one would expect those who take more of carbohydrates to be classified as unhealthy feeders in the study area, but the reverse is the case as such respondents consider themselves as healthy feeders. This could be because of the commercial nature of the study area that warrants migrants burning enough energy that might likely require consuming more carbohydrates such as yam, garri, rice and Akpu to regain lost energy This corroborates the qualitative data as a larger proportion of the FGD participants said almost the same thing. One of the participants for example, said:

> ... yes before we come out in the morning we take water at first in our houses, then, once we get here in the park there are some women that sell food here. They sell rice or Akpu, for me, I like taking rice or in most cases Akpu depending on what I feel like eating that moment. In the afternoon, if I see Gala I will chew it with Mineral, that is, with either Fanta or Coke . In the evening I may eat beans or if I see Tea, I will take **(FGD/04/03/2020/Transporter).**

Another participants further explained the extent to which the migrant in Aba feed somewhat differently and how age is a determinant of their diets and eating behaviour. The participant said:

> ... the major food we eat here is carbohydrates and starchy food, for example, I drink water in my house in the morning before

> coming to work but once I reach here I must eat Akpu before I start work. In Aba here some people eat garri, some Akpu, some rice, some beans and some yam. Here in the park there are some fruits they bring for us from AkwaIbom, Carrot is inside and so many other fruits mixed inside with milk, young people who like those kind of things, take it a lot in this park. For someone of my age however, I love taking Akpu once I come in the morning **(FGD/04/03/2020/Transporter).**

One of the female participants also narrated their conscious efforts to balance their diets as migrants. The participant said:

> Yes of course, we try to balance our meal. For me sometimes, I used to cook my plantain with potato because potato is carbohydrate and plantain iron. If I'm cooking rice, I will make sure I use vegetables like tomatoes, carrots, cabbage, etc to spice them up, and... I don't go well with meat. I eat more of fish. **(FGD/06/03/Trader*).***

This shows the availability of food in Aba and their efforts to care for their health by balancing their diets unlike what is obtainable in their areas of origin. They are however, constrained by mainly their ages, time and nature of job. These factors make them not to eat as healthier as they would have loved to.

Eatery Environment and Health Outcomes

Table 5: Distribution of Respondents by Eatery Environments and Health Outcomes

		During the last 6 months would you say you are eating healthier than before?							
		Definitely healthier		A little healthier		Unchanged		Less healthy	
		Freq	%	Freq	%	Freq	%	Freq	%
If you eat breakfast, where do you eat it	At home	68	42%	76	38%	54	46%	35	45%
	Restaurant	45	28%	54	27%	35	30%	29	38%
	Packed food prepared at home	40	25%	49	25%	15	13%	13	17%
	I usually don't have breakfast	10	6%	20	10%	14	12%	0	0%
	Total	**163**	**100%**	**199**	**100%**	**118**	**100%**	**77**	**100%**
On the average, how often did you eat out (food from restaurant/Mama-put) during the last one year?	Once per day	45	24%	49	23%	27	27%	19	34%
	Twice or more per day	48	26%	59	27%	47	47%	22	39%
	3 - 4 times per week	45	24%	49	23%	13	13%	13	23%
	5-6 times per week	23	12%	25	12%	10	10%	1	2%
	1-2 times per months	10	5%	11	5%	1	1%	0	0%

	1-3 times per months	14	8%	17	8%	1	1%	0	0%
	Less than once per month	0	0%	7	3%	0	0%	1	2%
	Total	**185**	**100%**	**217**	**100%**	**99**	**100%**	**56**	**100%**

Table 5 shows the eating environment of the respondents under study on healthy diet in the last 6 months. The responses from the respondents on the average show that more of the respondents (37.3%) agreed that their eating environment is little healthier than before they migrated to Aba while only 11.9% of them admitted that their eating environments are less healthy than before. More of the migrants 233(41.8%) take their breakfasts at home before going to work, while only 44(7.9%) of them don't take breakfast at all. It is only 163(29.3%) of the respondents that take their breakfast in the restaurants/mama-put. Furthermore, 176(31.6%) of the respondents eat out (either in the restaurant, fast food centres or Mama-put) twice or more per day; 140 (25.1%) eat out once a day while only 8(1.3%) eat out less than once per month. This shows that more of the respondents actually eat in a little healthier environment than before in their places of origin. This finding however, does not corroborate the qualitative data which shows that more of the respondents don't have time to eat at home because of time as they hate going to work late while some skip breakfast to avoid adding weight. One of the female participants for instance, said: "No, I do eat here in the shop, I don't have time to eat in my house in the morning **(FGD/06/03/Trader*).***Another female participant also said: "I don't eat in the morning at all. I don't like eating in the morning**(FGD/06/03/Trader*).*** All the female participants said they don't like eating in the morning because they are watching their weights. One of the participant further highlighted the exact time she eats her breakfast for the same reason as thus: I don't like eating early in the morning, I love to eat around 11 or 12:00noon because I'm watching my weight**(FGD/06/03/Trader*)***". Some of the male participants also reported the same as their female counterparts. One male participant for example, reported as thus:

> For me, it is not all the time that I like to eat breakfast in the morning in my house. My concern is always what to do to ensure that my children eat. Whatever my family eat in the morning I don't even know, all I know is that as early as possible I have to leave the house to go and hustle. I will only give my wife some money and ask her to take care of the children. I don't even eat immediately I get to the park here, I will always wait until it is 10 to 11'O"clock **(FGD/04/03/2020/Transporter).**

The gap in the quantitative and qualitative findings could be because of the specific locations the FGD was carried out and the occupations of the participants. The participants were mainly traders and transporters who usually do not have the time to eat before going about their businesses in the morning. One could say that time and nature of business of migrants make them to either skip breakfast most often or eat breakfast late in their work places instead of in their homes. This exposes them to dirty environments, thereby endangering their health. Worst still, the wait-loss consciousness among the female migrants pushes them to deliberately skip breakfast, and as such stand the risk of developing stomach ulcer. It is therefore obvious that the commercial nature of the study area makes migrants eat in their business environments which may not be as neat as their homes.

Test of Hypotheses

$H_{0:}$ There is no significant relationship between healthy diet and reduction in risk of life threatening diseases.

$H_{1:}$ There is a significant relationship between healthy diet and reduction in risk of life threatening diseases.

Table 6: Correlation Analysis of the Relationship between Healthy Diet and Reduction in Risk of Life Threatening Diseases

		During the last 6 months would you say you are eating healthier than before?	*When you are stressed, what type of food or drink do you take to relieve stressors*	*When you are stressed do you over eat to relieve stressors?*
During the last 6 months would you say you are eating healthier than before?	Pearson Correlation	1	-.228*	-0.007
	Sig. (2-tailed)		0.022	0.974
When you are stressed, what type of food or drink do you take to relieve stressors	Pearson Correlation	-.228*	1	.369
	Sig. (2-tailed)	0.022		0
When you are stressed do you over eat to relieve stressors?	Pearson Correlation	-0.007	.369	1
	Sig. (2-tailed)	0.974	0	
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 6 shows the correlation between the variables. The table shows that the relationship that occurs on the type of food or drink, the migrants take to relieve stressors on healthy diet is significant (p-value 0.022). This implies that what migrants eat or drink affect their healthy diets in the study area.

Discussion of Findings

This study was on the changing dietary behaviour and health outcomes among migrants in aba, Nigeria. It was found that a majority of migrants in Aba eat foods different from what they eat in their places of origin and this was corroborated by the qualitative data. This is in tandem with the finding of Borella and Bourgellini (2015) that migration often leads to lifestyle, psychological and social changes; which in most cause immigrants to adopt new dietary behaviour in relation to their new environment, schedules, work practices and itinerary. It is also in line with the view of Meeske (2018) who explained that such change in dietary and feeding patterns can be seen as a dietetic transition which generally marks a shift from relatively indigenous diet towards more industrialized ones. Furthermore, this finding is also in tandem with finding of Paxton et al (2016) that there exist a shift in the nature and type of food consumed by migrants as against what they used to eat and that such shift could be explained by the factors of nutrition and diet acculturation.Secondly, it was found that migrants in the study area feed healthier than they used to in their areas of origin which indicates that they live above poverty line. Again, outside the consumption of fresh fruits, vegetables, meat and fish, beverages such as coffee and tea, carbohydrates tends to be a compulsory food to these migrants irrespective of their dietary statuses because of the commercial nature of Aba that warrants the migrants burning enough energy thereby necessitating regular consumption of carbohydrates.

The qualitative data corroborated this finding. The related hypothesis which is hypothesis one shows that there is a statistical relationship between healthy diet and reduction in the risk of contracting life threatening diseases among migrants in Aba (p-value 0.022). In other words, there is a relationship between the types of food or drink the migrants take and reduction in the risk of life threatening diseases. This is not in tandem with the finding of Paxton et al (2016) that most migrants in urban areas encounter high processed foods rich in saturated fat, refined sugar and sodium (salt), as against foods rich in fibre, vegetables, fruits and whole grains that they consumed in their traditional localities. Finally, it was also found that the migrants eating environment is a little healthier than it was before they migrated to Aba. Again, more of the Aba migrants take their breakfast at home before going to work. The qualitative data did not corroborate this finding as the FGD data showed that more of the respondents don't have time to have their breakfast at home as they hate going to work late. This variation could be because of the literacy level of the migrants which makes it more convenient for them to answer more accurately with their native language than in written form.This is in tandem with the finding of Otemuyiwa and Adewusi (2012) that consumption of fast foods has been linked to the growing incidence of obesity, diabetes and CVDs and that foods from dirty environment can cause typhoid, dysentery and cholera.

CONCLUSION

The work is onchanging dietary behaviour and health outcomes among migrants in Aba urban, Nigeria. There is a change in the diets of migrants in Aba but their eating habits still remains unchanged. The migrants' native foods are found in Aba but not exactly in their original usual forms in terms of freshness and preparations, hence the reason for the change in migrants' diets. It is true that the migrants feed a little healthier in the places of destination than in their places of origin but the rate of consumption of carbohydrates and red meat among Aba migrants remain high and thereby posing a high risk of negative health outcomes if not checkmated. Again, the migrants also eat in a little healthy environment than before but eating outside their homes (in restaurants or Mama-put) poses serious danger to their health. This however, is not usually a deliberate action but as a way of easing stress or work pressures.

RECOMMENDATIONS

The following recommendations were made in consideration of the findings of this study as thus:

1. There should be an intensified awareness creation in the markets and parks in Aba on the need for migrants to increase the rates to which they maintain ties with village relatives. This will reduce migrants' visitation and patronage to food vendors/ restaurants and consequently reduces vulnerability to negative health outcomes arising from eating in relatively unhealthy environments.
2. Markets and pack authorities should periodically organize seminars and workshops in which health experts are invited to educate traders and business men and women, on the dangers of excessive consumption of carbohydrates and red meats to health. This will match the observed changes in the migrants dietary behaviour with knowledge of healthy diets that will results more in the consumption of fruits and vegetables instead of meats and junks full of carbohydrates.
3. The State Government, Non-Governmental Organizations (NGOs), Urban authorities, market authorities, Park authorities, and other stakeholders should consider it a priority to sensitize Aba migrants on the importance of breakfast to health. This will go a long way to reduce skipping of breakfast by migrant traders and

businessmen in Aba and reduces poor health issues arising from poor time management with regard to taking breakfast by migrants.

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