



Psychosocial well-being across Nigeria's Geo-Political Regions: Insights from Decade-long General Household Surveys.

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Abstract

The study examined household food consumption patterns and probable health implications using nutritional status of infants as major index. Data utilised were extracted from the Nigeria's General Household Survey Report 2010 - 2019, particularly report from Wave 1 to Wave 4. Variables of interest are types and percentages of food consumed by households (post-planting) in different regions of Nigeria and nutritional status of infants under five years. Analysis of secondary data was conducted using descriptive statistics and comparative analysis to identify changes and trends across the study sites over time. Across the country, the study found a high preference and intake of dietary carbohydrates like grains and flour, starchy roots, tubers and plantains as well as vegetables and fats and oil. North-South variances were observed in the consumption of grains and flour. Fewer percentage of households consumed fruits and milk products, though with slight increase over time. Evidence of nutritional transition and a shift to baked and processed products was found, mostly in the southern and urban parts of the country. Many (42.9%) under-five children were stunted (low height for age) and were underweight (21.3%), while few (7.0%) experienced wasting (low weight for height). Past interventions on nutrition in the country have not truly improved nutritional practices in the general population. To avert the human cost of food insecurity and nutritional deficiencies, interventions should target the vulnerable and disadvantaged groups in the food chain.

Keywords: Food Consumption; Gender; Health; Nutrition; Household

Introduction

Diet and nutrition are foremost undercurrents driving individual's physical and mental wellbeing. Malnutrition is a public health issue and is globally ubiquitous. About three billion

people consume poor quality diets and two billion people are believed to suffer micronutrients deficiencies around the world (Bailey et al., 2015). Nonetheless, women and children are more vulnerable due to their nutritional

requirements, poverty and unequal power distribution in the society (Delisle, 2008). Lately, the trio of insecurity, climate change, and Covid-19 pandemic have further negatively impacted food security (FAO, 2015; The World Bank, 2021) especially, children and women's nutrition in developing economies (Blössner & De Onis, 2005). Covid-19 worsened malnutrition through inflation, income loss and inaccessibility of health services (Headey et al., 2020). Climate change on the other hand reduces crop productivity due to increasing temperature, drought, and rise in sea level among others (FAO, 2015), while insecurity in conflict prone settings threatens agricultural production and food supply.

Nutrition and gender are mutually reinforcing, because gender inequality is a major antecedent to food insecurity and inadequate nutrition while both poor nutrition and food insecurity further foster gender inequality in the society. Despite being key actors in the food value chain and agricultural production, women and children experience differentials in access and control over food security compared to other population subgroups. They neither have complete access to economic resources (including food) and its distribution nor have control over what they consume. Evidence has shown that inadequate food consumption (quantity and quality) is inimical to individual's health and wellbeing. In young children, malnutrition often manifests through indices like stunting, wasting, underweight, and overweight/obesity. Malnutrition or poor dietary intake is also closely linked with reduced immune response, recurrent infections, and other medical conditions and in the worst case scenario, infant mortality (De & Chattopadhyay, 2019). In adolescents and young adults, food insecurity and hunger exposes the girl child to abuse in all its forms [early/child marriage; underage sex; early unwanted pregnancy; unprotected sex; risks of STIs/AIDs; and child abandonment].

Likewise, in women, poor nutrition during prenatal and postpartum phases has ripple effects on both the mother and the offspring. Poor nutritional intake in pregnant and lactating mothers is responsible for the high prevalence of micronutrients deficiency, low birth weight, poor

pregnancy outcomes, poor child physical and mental growth and maternal morbidity and mortality (Bailey et al., 2015). In young girls and women, the cost of food insecurity and poor nutritional intake are enormous as both may produce an unending cycle of social problems. Macro and micro level determinants of nutritional deficiencies have been investigated in diverse settings, while the literature is replete with studies providing insightful takes on the socio-cultural and individual level dynamics influencing nutritional status of some population groups, such as women and young children. In Nigeria, cultural practices, food taboos, literacy, demographic factors and poverty are all significantly associated with nutritional behaviour and dietary intake.

Methods

Data used in the study were extracted from the General Household Survey (GHS) report published by the Nigerian National Bureau of Statistics in conjunction with the Federal Ministry of Agriculture and Rural Development and the World Bank. The primary data set was nationally and regionally representative of the Nigerian population as the primary sampling units (PSU), (60 per site), were drawn from all the 36 states in the country and the federal capital territory, Abuja. Country-wide, 22,200 households were surveyed across the 2,220 PSU (10 households per PSU). A total of 5000 households were selected for the survey, however, between the surveys intervals, some of the households reportedly relocated from their initial abode. Hence, the households that participated varied from Wave 1 to Wave 4. Both the general household survey and panel surveys were done in phases, 1 and 2.

Data of interest are statistics on nutritional status of children under five years of age, types and percentages of food consumed across the six geopolitical zones in the country from Wave one through Wave four. Food consumption were said to have been recorded in the survey if a minimum of one person in the household indicated its intake during the seven-day interval. These surveys were conducted between 2011 and 2019. The data on household food consumption of interest in this study were those collected during the seven days

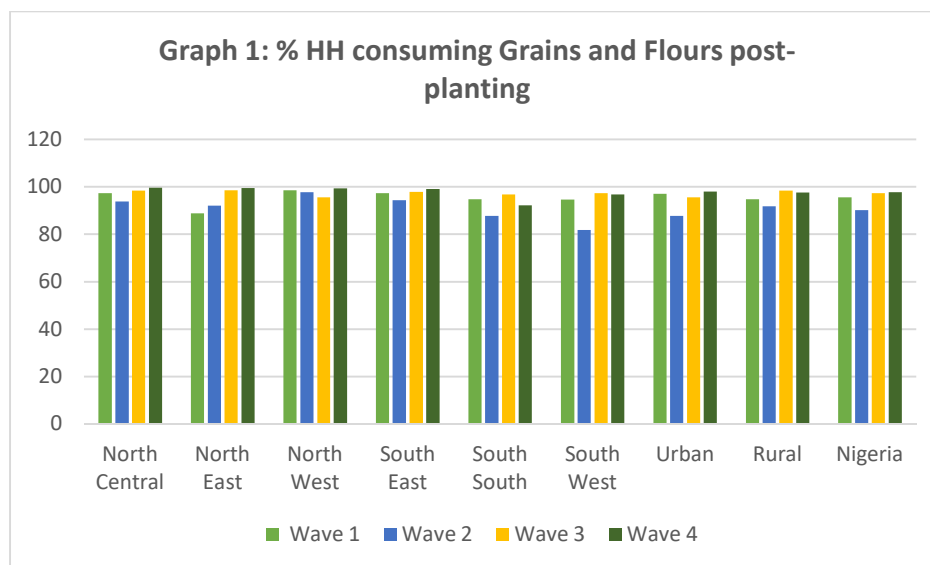
post-planting periods of 2010, 2012, 2015 and 2018, respectively.

The unit of analysis is the household. Analysis of the secondary data involves the use of descriptive statistics, mostly percentages. Comparative analysis of data was also utilized. This entails grouping similar data and comparing changes and trends across the study sites, especially changes in the rates reported over the years. No ethical approval was required for the study since the study utilized secondary data which is already in the public domain. The study did not violate any ethical principle.

Results

As revealed in the graph 1, from Wave one through Wave four, majority of households across the regions indicated that they had consumed grains and flours seven days prior the survey. The lowest rate of consumption was in the North East

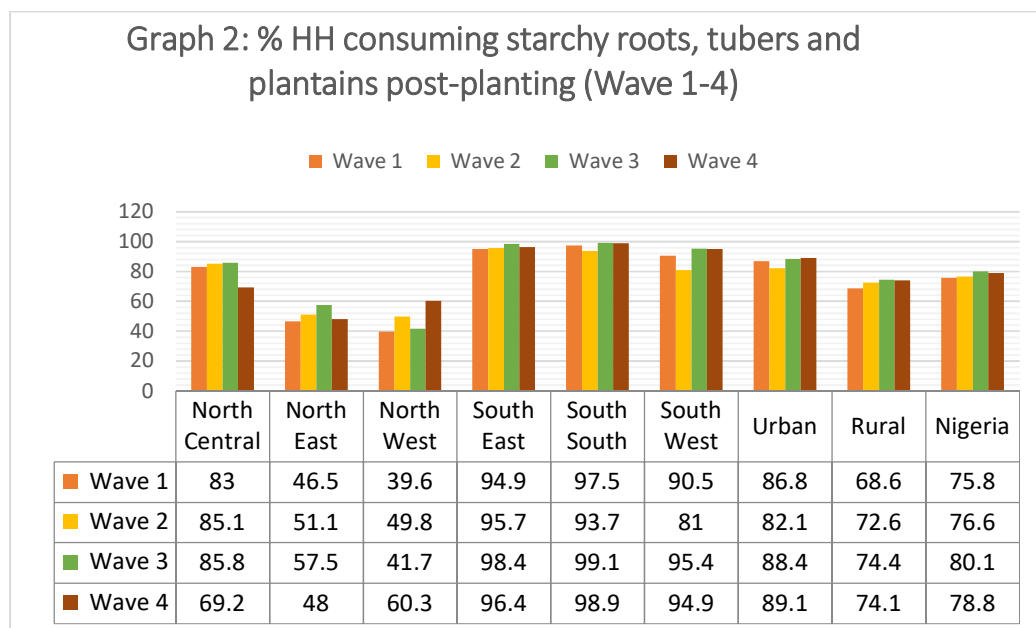
where 88.8% of households reportedly consumed grains and flours. In Wave two, the rate of consumption marginally diminished across all the study sites except in the North East where an increase of about 3.6% was reported compared to the base year. Despite the decline in percentage of households reporting consumption in Wave two, most locations (five out of reported eight) had rates higher than the national average (90.1%). Unlike in Wave two, an increase in consumption was recorded in Wave three, a fall in consumption occurred only in the North West. South-South, South West and rural Nigeria all reported a fall in grains and flours consumption in Wave four, while other locations had an increase in household consumption. Households in North-West reported highest rate in Wave one and two, North-East and North-Central reported the highest consumption in Wave three and Wave four, respectively.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

As presented in graph 2, the percentage of households indicating intake of starchy roots, tubers and plantains is higher in the southern part compared to the northern part of the country. The rate reported for the north was equally lower compared to the urban area and the national average throughout the period under review. The only outlier in this region was North-central, although, the rate reported here also declined in

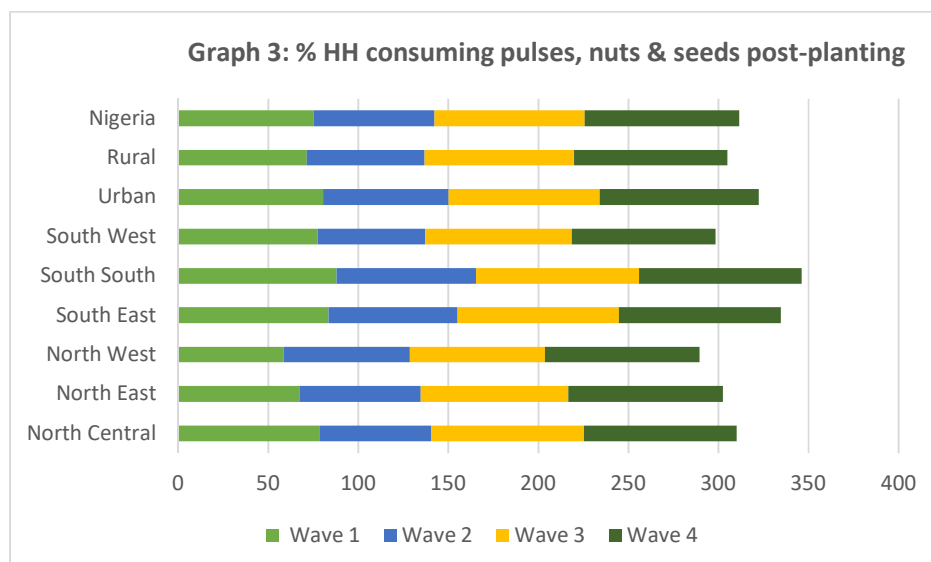
Wave four. South-East and South-South reportedly had more than 90% of households surveyed consuming this group of food, this was followed closely by the South-West. South-South recorded the highest percentage of starchy roots, tubers and plantains consumption in Wave one, three and four while households in the South-East has the highest rate in Wave two.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

As presented in graph 3, changes in consumption behaviour in relation to pulses, nuts and seeds was also very high, especially in the south and compared to the north, and this also steadily increased over time in North-East and North-West. The consumption rate also dwindled in Wave two compared to Wave one in all locations

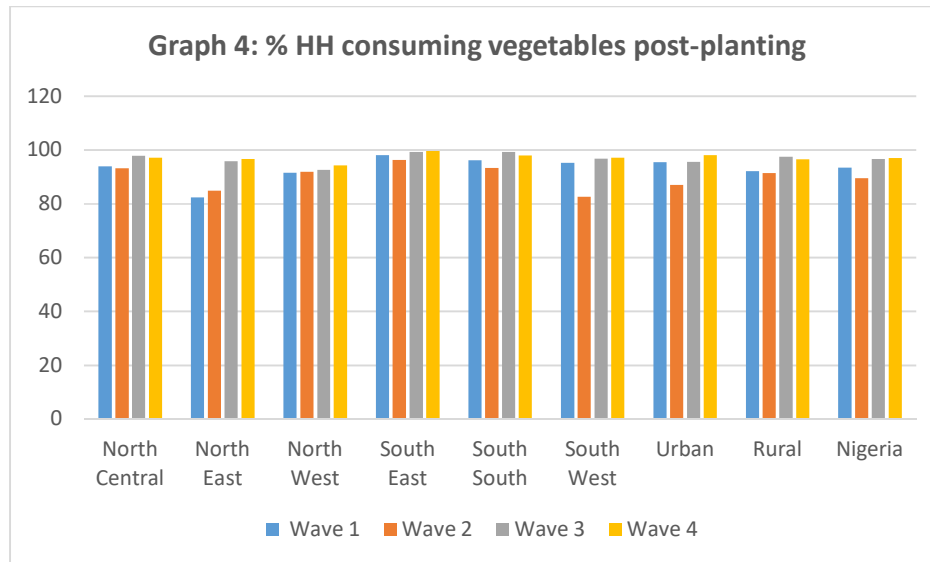
except in the North-East and North-West. A sharp rise in rate of consumption also occurred in Wave three and Wave four in South East, rural and urban areas, and nationwide. The highest rate recorded from Wave one to occurred in the South-South region of the country.



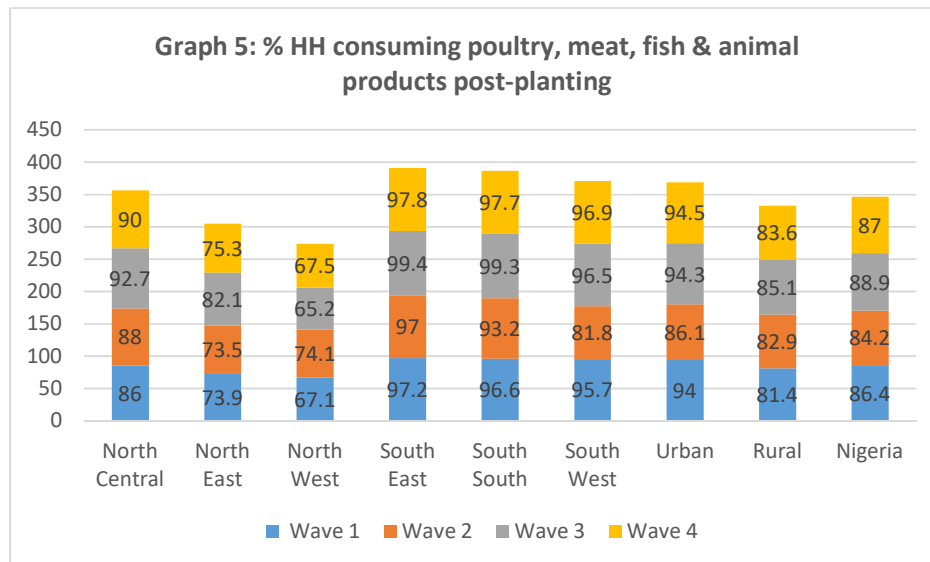
Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

Data presented in graphs 4 and 5 respectively show consumption of vegetables and animal products was also high in the study. Vegetables was most consumed in Wave 1, 2, 3 & 4, by households in South-East. South-South reported the same rate as the South-East in Wave 3. While poultry, meat, fish & animal products were

consumed in South-East more than other locations in Wave 1 through Wave 4. The rate reported was also above urban and national rates throughout the period. On the other hand, North-West reported the lowest rates in Wave 1, 3 & 4 while North-East had the lowest in Wave 2.



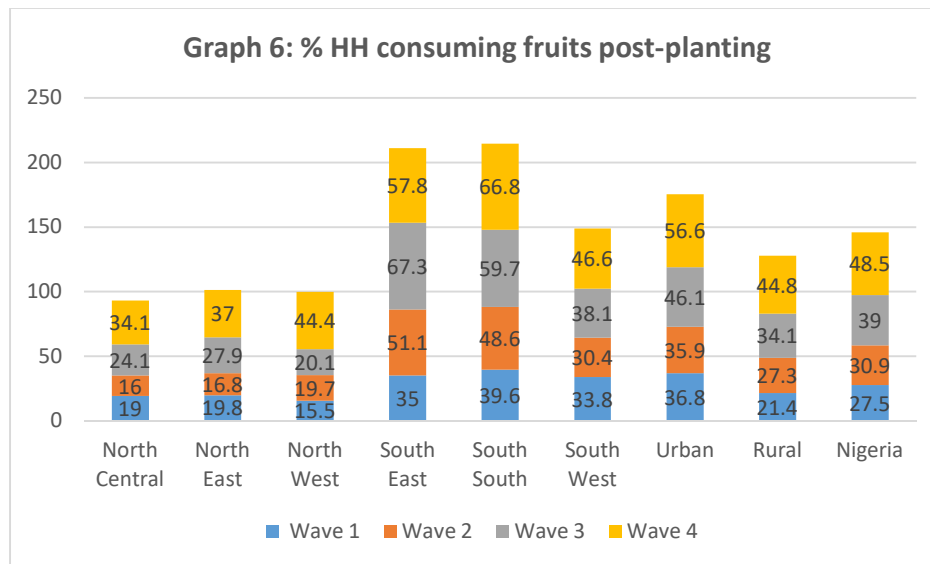
Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

Graph 6 shows the number of households consuming fruits was generally low throughout the study sites. This however, continually increased from Wave 1 to Wave 4 in the South-South, North West, rural Nigeria, and even nationwide. In the South-East, the households that

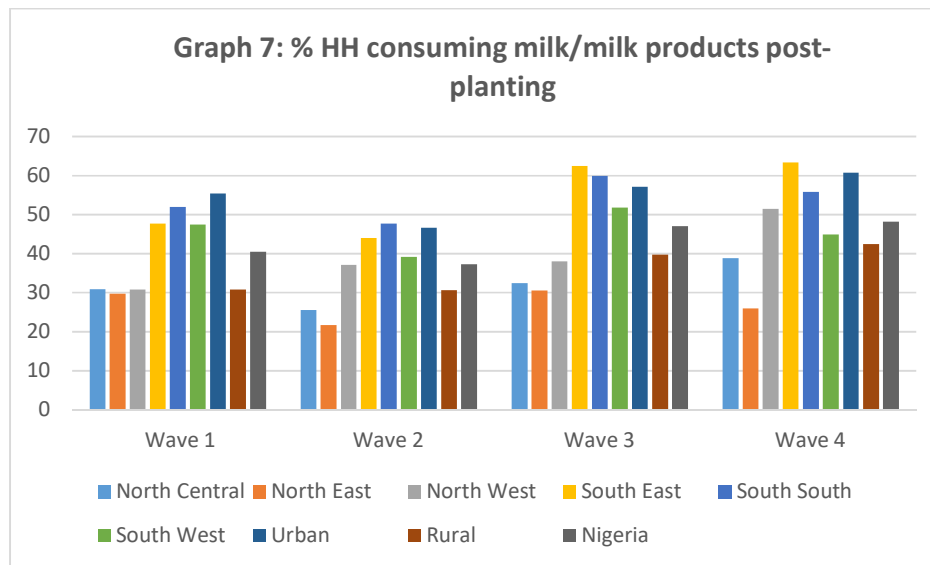
consumed fruits increased from Wave 1 to Wave 3 but the rate declined in Wave 4. From Wave 1 to Wave 2, households that reportedly consumed fruits declined in South-West, North-Central, North-East, and urban area but the rate increased in Wave 3 and Wave 4.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

Graph 7 also shows a similar pattern to fruit consumption in the consumption of milk and milk products reported by households. The rate was generally low in Wave 2 as no region reported rate up to 50%. In Wave 1, only South-South and urban locations had rates above 50%. In the North-West and rural part of Nigeria, there was a steady ride in the number of households reporting consumption of milk & milk products 7 days

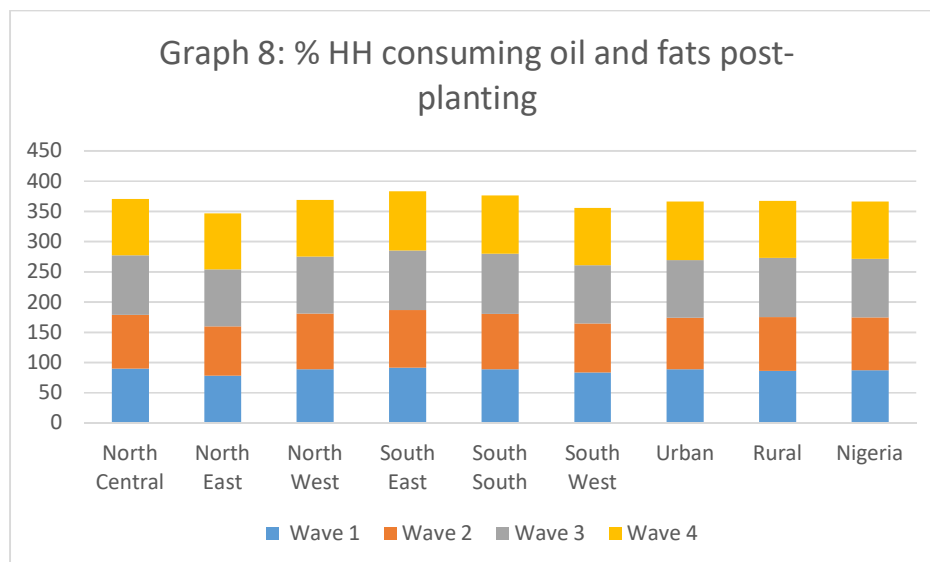
before the data collection from Wave 1 through Wave 4. On the other hand, the rate persistently fluctuated in the North-East, South-East, South-South, South-West, and urban area. In the North-Central, the rate declined from Wave 1 to 2 but increased from Wave 3 through 4. Overall, the rate improved in Wave 4 compared to the baseline.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

Graph 8 shows that oils and fats was consumed by a high number of households surveyed. The highest percentage of households indicated that they used fats and oil in their meal in Wave 3,

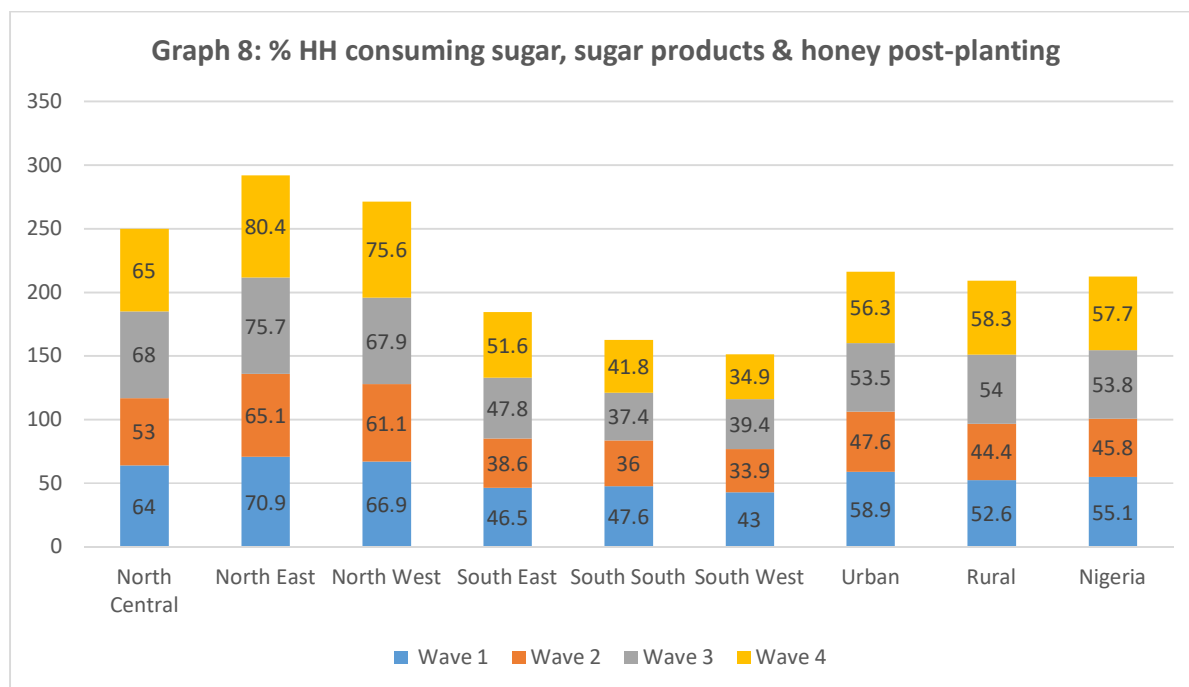
nevertheless, overall, more than 78% consumed this group of food in the survey. Although, South-East top the list in Wave 1, 2, and 4 while in Wave 3, South-South had the highest number.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

Graph 8 presents the rate of sugar and sugar products and honey consumption was highest in the North-East, North-West followed by North-Central. This food type were least consumed in

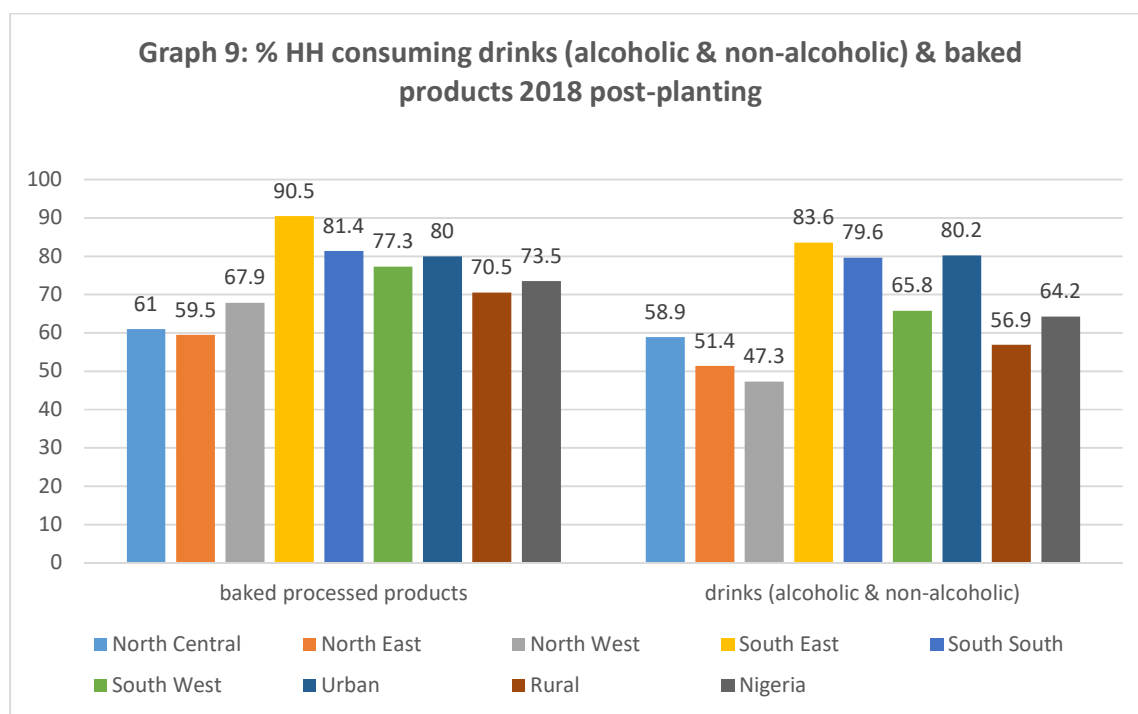
the southern parts of the country where rates reported in the South-West were least and even lower than the national average throughout the study period.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

As presented in graph 9, baked and processed products' consumption was reported by more than half of the households in all sites. These were consumed above the national average (73.5%) by households in

the South-East, South-South, urban areas, and South-West in their respective order. Same also applied to consumption of alcoholic and non-alcoholic drinks.



Source: General Household Survey 2010 – 2019, Nigerian National Bureau of Statistics.

Table 1: Nutritional status of children under five: Wave 4 survey.

Region	% Stunting (0-59)		% Wasting (0-59)		% Underweight (0-59)	
	male	female	male	female	male	female
North Central	35.6	42.3	5.4	4.0	18.6	17.9
North East	54.7	48.0	6.7	6.9	22.3	24.1
North West	58.6	54.7	10.6	11.9	30.9	33.6
South East	20.6	21.0	3.2	2.4	7.8	7.2
South South	26.9	18.3	2.4	9.2	13.7	20.0
South West	24.5	13.9	9.8	11.5	17.1	14.0
Urban	33.3	26.0	6.2	9.1	14.4	18.9
Rural	45.8	43.7	7.2	8.5	23.4	25.0
NGA	42.9	39.5	7.0	8.6	21.3	23.6

Source: General Household Survey 2018/2019, Nigerian National Bureau of Statistics.

Nationwide, the rate of stunting in infants under five years (male and female) as presented in table 1 was higher compared to the rate of wasting and underweight. Stunting was more prevalent in the Northern region, especially North-East and North-West than the Southern part of the country. The occurrence in these Northern zones was higher than the national average. While southern region reported rates lower than the national average. Stunting in under five children was also more common in rural than urban areas. Across all the study locations, a gender imbalance could be observed, as more males were affected than females. As for wasting, the highest percentage was recorded for the North-West, followed by the South-West. More rural infants also suffered from wasting than the urban counterparts. The least occurrence of wasting among males was in the South-South and for the females, it was in the South-East. The rate of wasting was more among females than males in most locations except in the South-East and North-Central zones.

Discussion

Secondary analysis of household consumption reveals a high preference and intake of dietary carbohydrates such as grains and flour, starchy roots, tubers and plantains. Same also applies to the consumption of vegetables and animal protein. The study found a steady high consumption of starch and grains, vegetables and fats and oil (more consumed than any other food types) across the country from Wave 1 to Wave 4

for which data have been published. The report, however, did not provide further information on dietary intake of the food types such as quantity, quality and calories consumed. It should be noted that these food types constitute staple food in this part of the world. Additionally, respondents' social economic status may have contributed to this finding as most households sampled in the surveys were low income earners. Many, especially in the South, had experienced food shortages at some point during the 30 days preceding the survey, hence, forcing them to consume certain types of foods (National Bureau of Statistics, 2019). The data also indicated that most respondents reported agriculture as their main income-generating activity (National Bureau of Statistics, 2019). Further indicating that these classes of food which were consumed by many households are traditional to the people and locally grown and purchased in instances where they are not grown.

Evidence from the survey also suggests that majority of households both at the regional and national level consumed vegetables. This is contrary to previous findings reporting low consumption of vegetables in developing countries and Nigeria, specifically (Raaijmakers et al., 2018). Next in the order of food types consumed by majority of the households is poultry, meat, fish and animal products as well as sugar, sugar products and honey. North-South variation in the rate of consumption was equally

observed. Due to their nutritional value and health benefits, intake of high-quality diets like vegetables and animal products is highly encouraged for lowering susceptibility to chronic diseases, cancers and micronutrients deficiency. On the other hand, intake of low-quality diets in the form of sugar and sugar products are discouraged (Raaijmakers et al., 2018). However, the group of food reportedly consumed by the lesser number of households are fruits and milk products. Although, fruits consumption has been on the rise from Wave 2. Despite being expensive, more households consumed poultry, meat, fish and animal products than milk and milk products. Determinants of such consumption behaviour have been investigated. Such studies have identified poor knowledge of nutrition, socio economic status, preferences and traditional food habits as possible drivers of dietary behaviour.

Evidence of nutritional transition and a shift to modern living and Western diets are shown in the consumption of baked products in the GHS. However, data on the consumption of baked and processed foods was only available for the 2019 survey, thus, juxtaposing with previous years was impossible. Nonetheless, the survey revealed that this category of food was most consumed in the southern and urban areas of the country. Its consumption in these locations was higher than the national rate. The highest consumption of baked and processed food was in the South-East with over 90% of respondents reporting its intake. This affirms the claim of previous studies that the dietary habit of Nigerians are changing due to urbanisation and Westernisation (Raaijmakers et al., 2018). Majority of the populace now have preference for foreign cuisine and delicacies at the expense of traditional foods. Lifestyle changes, working away from home, and ubiquity of fast food outlets also contributed to the emerging trend. All these make it difficult for people to maintain healthy dietary habits (Udogadi et al., 2019).

Furthermore, the health implications of dietary intake in any country are easily reflected in the nutritional status of children under five years. The GHS revealed that many (42.9%) under-five children are stunted (low height for age) and underweight (21.3%), while few (7.0%)

experienced wasting (low weight for height). Though, there may be other mediating variables, social determinants of these diet-related medical conditions in children are poverty, household dietary consumption and poor child feeding practices. Evidence equally reveal that gender inequality fosters poor child nutrition and a cycle of deprivation over the life course and even generations (Herman et al., 2014). To address this problem, the Federal Government of Nigeria through its Ministries commenced the implementation of the National Food and Nutrition Policy (NFNP) in 2016. The goals of this initiative are consistent with that of the World Health Assembly Global targets 2025, including lessening the rate of stunting and wasting in children (Yousoufane, 2017). Due to high level poverty and income disparities, many infants in Nigeria need school feeding hence the introduction of the National Home Grown School Feeding Programme (NHGSFP) of the Government aimed at improving child nutrition and health, encourage school attendance, improve food security and academic performance (Owen & Corfe, 2017).

Irrespective of these interventions, this study found that the rate of stunting is still very high while that of wasting has reduced, drastically. However, the dietary requirements of many children are still largely unmet across the country. To achieve optimal health in children and adults, the nutritional value of food fed within the household is important. Poor nutrition affects mental health, general wellbeing, attainment and concentration in school (Owen & Corfe, 2017). Although, these are the obvious early indicators of poor diet, experts have established that health consequences of infants' nutritional deficiencies may be long term, possibly producing irreversible damage later in life during which the long term complications begin to manifest. Aside from the obvious physiological conditions, diet and nutrition have been found to have some control over brain plasticity, brain protein, brain function and mental wellbeing (Owen & Corfe, 2017). For instance, vitamin B deficiency is associated with symptoms of depression, fatigue, and insomnia (Mikkelsen et al., 2016).

Health effects of excess carbohydrates intake are also well documented. Its over-consumption is associated with the surge in incidence and prevalence of chronic non-communicable diseases and mostly metabolic disorders like diabetes mellitus (Udogadi et al., 2019). Though, the type of grains consumed was not indicated in the GHS reports, however, refined grains has been implicated in the incidence of diabetes mellitus and inflammation. While whole grains are more beneficial to health (Jones & Engleson, 2010). Obesity, which is caused by excess carbohydrates has also been found to result in dementia, depression, and Alzheimer's diseases while poor diets in general is believed to worsen mood disorders (Firth et al., 2020). Perhaps this explains why mental illness is highly prevalent in Nigeria (Abubakar-Abdullateef et al., 2017). The prevalence of moderate to severe mental distress in the country was put at 35.5% and that of suicidal ideation was about 29.7% (Sweetland et al., 2019). Out of the three countries (Uganda, Ghana and Nigeria) in a multisite study on mental illness, only in Nigeria did food insecurity have a significant association with suicidal ideation (Sweetland et al., 2019). Acknowledging the importance of diets to mental wellness, the field of Nutritional Psychiatry was developed of late purposely to address the avoidable risks which poor nutrition poses to mental health (Owen & Corfe, 2017). The shift to medical nutrition therapy for several medical conditions espouses that the quality of food consumed by the vulnerable population sub-groups (especially women and children) matters not only for the individuals' wellbeing but the future of the society at large. Investing in food security and its quality is therefore, of paramount necessity in poor resourced countries like Nigeria.

Conclusion

The study compared household food choices and nutritional status of infants across Nigeria. Investigation on dietary consumption within the household, such as done in this study, provides empirical evidence that for any society aspiring to achieve sustainable growth and development, food security and quality of nutrition cannot be ignored. Access to good nutrition catalyses good physical and mental wellbeing and these are essential recipes for human and societal

development. Although, past and present administrations in Nigeria have endeavoured to address aspects of these challenges, while international organisations have equally provided supports through their initiatives across various societal levels to improve the nutritional status of women and children. However, these have not actually improved the nutritional practices in the general population as shown in this study. Partly, poverty and other structural problems may be responsible, nevertheless, progressive knowledge supports the significance of nutritional literacy of women and girl child as fundamental for any intervention to truly produce desired impact. More so, nutrition and gender are mutually reinforcing and when mothers are not sufficiently educated and empowered to make the right dietary choices for their infants and the whole family, there will be consequences. Currently, the detrimental effects of past poor nutrition in the population especially, among women and young children are staring the nation in the face. Therefore, these should be of major concern for all as the country is highly incapacitated to manage the burgeoning health crises. To avert the human cost of food insecurity and nutritional deficiencies in the country, research focus and future interventions should be directed at the most vulnerable group in the food chain. Investing in nutrition now is investing in the future since such support comes to fruition decades later.

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