



Addressing Non-Communicable Disease in Nigeria through Dietary Assessment

Tamara D. Otey, PhD, RN

Goldfarb School of Nursing at Barnes Jewish College, Office of Nursing Research, St. Louis, MO



Introduction

- Non-communicable disease (NCDs) are becoming the major public health problem in Nigeria; more than infectious diseases.
- Hypertension is a leading cause of morbidity and mortality in Africa and especially Nigeria.
- One third of all the cases of diabetes in Nigeria are in the rural communities and two million of the cases of diabetes are undiagnosed.
- Detailed dietary intake data from low-to-middle income countries (LMIC) are needed to create culturally relevant dietary modifications plans for management and prevention of NCDs.
- We obtained 24hr diet recall with methods of cooking to gain knowledge of their current diet with anthropometric measurements to develop cultural dietary modifications.
- Inclusion criteria: ≥ 18 years old and cooked family meals. Verbal consent was obtained from all participants.
- Forty-nine (49) Nigerian women participated.

| Meal Time | Frequency | Percentage |
|------------------------------|-----------|------------|
| Breakfast (0600-1000) | 39 | 29.77% |
| Lunch (1100-1500) | 40 | 30.53% |
| Dinner (1600-2000) | 40 | 30.53% |
| Bedtime (2100-2359) | 12 | 9.16% |

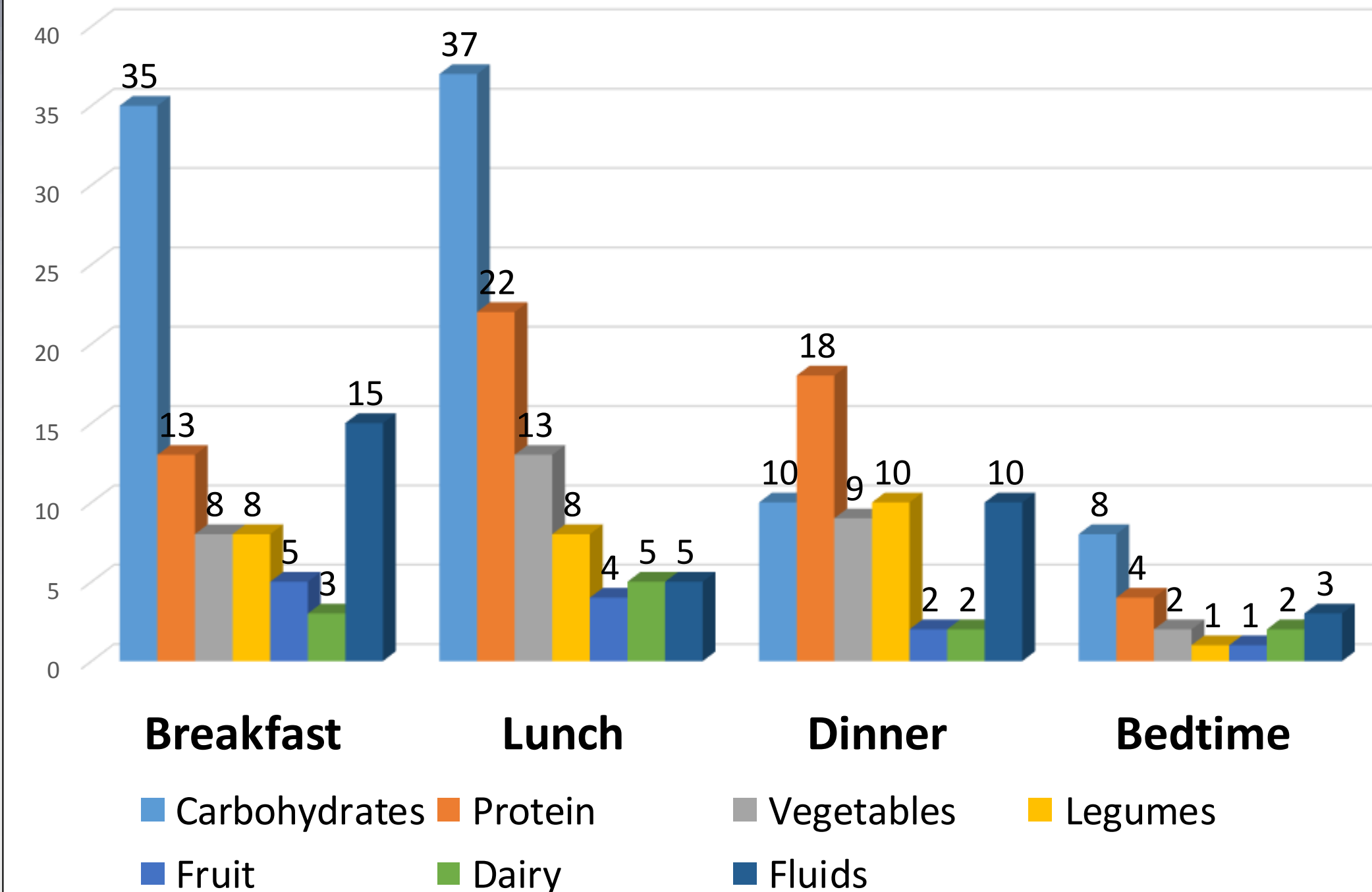
Average Meals Eaten Per Day

2.67

Recorded Cooking Methods

| Boiled | Baked | Fried | Fresh | Processed |
|--------|-------|-------|-------|-----------|
| 16 | 2 | 12 | 4 | 5 |

Food Groups at Each Meal



Anthropometric Measures

Anthropo means 'human' and *metry* means 'measurement'. Nutritional assessment is the interpretation of anthropometric, clinical and dietary data to determine whether a person is well nourished or malnourished. We assessed each participants Body mass index (BMI) and waist circumference (WC) measurements.

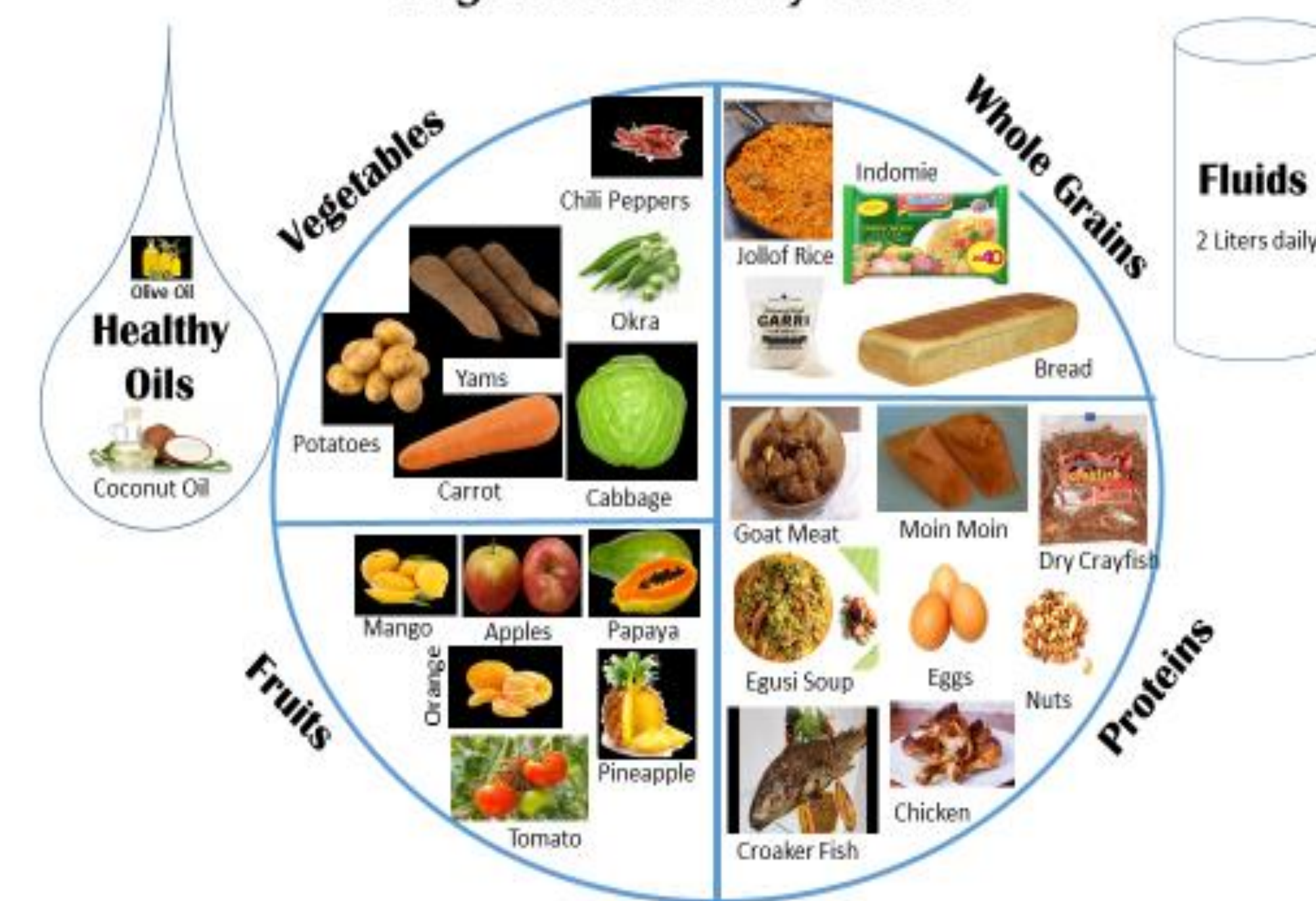
| Body Mass Index | Under weight | Normal | Over weight | Obese |
|-----------------|--------------|-----------|-------------|-------|
| Categories | 15 – 19.9 | 20 – 24.9 | 25 – 29.9 | > 30 |
| Frequency | 1 | 19 | 19 | 8 |
| Percentage | 2.13% | 40.43% | 40.43% | 17.2% |

| Waist Circumference | Normal | At Risk |
|------------------------|--------------|--------------|
| Categories | < 80 cm | > 80 cm |
| Frequency & Percentage | 16 33.33% | 32 66.67% |

Results

- BMI is used as a measure of obesity, and WC is an indicator of central abdominal obesity and body fat distribution. Both have been associated with the risk of chronic disease morbidity and mortality.
- This study shows the prevalence of abnormal BMI categories for half of the participants. Sixty-five percent of the participants had an abnormal waist circumference. BMI and WC has been reported as viable predictors of major metabolic disorder,
- Future plans are to plan intervention to assess for cardio-metabolic syndrome with biomarkers.
- A Nigeria Healthy Plate was developed to help Nigerians consume a nutrient-rich, calorie appropriate, balanced diet that includes a variety of foods from their culture in moderation to assist with the management of their health and weight.

Nigerian Healthy Plate



PhotoVoice



CHINYERE UMUOFOR UDO
AUXILIARY NURSE

Cassava Farming

- A lady is weeding her cassava farm She will prepare the cassava to make garri.
- First, you peel it and wash it, then take it to a machine to grind it. Then wait one day for it to dry very well and then you can fry it.
- She will sell the garri to make money. This is one of the ways Nigeria women make money.



ESTHER OBIZI
AUXILIARY NURSE

African Woman & Poultry Farm

- It takes a gradual process to raise chicks, from birth to 3 months. We give them cough medicine and paracetamol (acetaminophen) to ensure the health of the chicken.
- The baby chicks are sold at 3 months. Selling chicks are a major source of income for the Nigerian women.
- Some chicks are kept as "layers" and they can lay eggs at 6 months, while others are sold as income.



CHI CHI UMUELEAGWA ONICHA

Washing Back of Cow Skin

- The skin from the back of the cow is smoked on open flame then scrapped to make sure hair and burned skin are removed.
- The women wash the meat very well with hot water and salt then they are cut into sizable pieces.
- There is meat inside the skin that is tasty and used to make Kpomo soup or canda.

