Addressing Non-Communicable Disease in Nigeria through Dietary Assessment

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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-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.

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.

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 cardiometabolic 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.

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

<table>
<thead>
<tr>
<th>Method</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiled</td>
<td>16</td>
</tr>
<tr>
<td>Baked</td>
<td>2</td>
</tr>
<tr>
<td>Fried</td>
<td>12</td>
</tr>
<tr>
<td>Fresh</td>
<td>4</td>
</tr>
<tr>
<td>Processed</td>
<td>5</td>
</tr>
</tbody>
</table>

Anthropometric Measures

Body Mass Index
- Underweight: BMI < 18.5
- Normal: 18.5 ≤ BMI < 25
- Overweight: 25 ≤ BMI < 30
- Obese: BMI ≥ 30

Waist Circumference
- Normal: WC < 80 cm
- At Risk: WC ≥ 80 cm

Food Groups at Each Meal

- Carbohydrates
- Protein
- Vegetables
- Legumes
- Fruit
- Dairy
- Fluids

Nigerian Healthy Plate

PhotoVoice

- A lady is cutting her carrots farm. She will prepare the carrots to make gari.
- She is cutting the carrots into small pieces and putting it in a plate to make gari.