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Topic: Malnutrition treatment and prevention

Title: Formulation and Evaluation of Ready-To-Use Therapeutic Foods using Locally Available Ingredients

Presentation Type: Oral

Introduction: 60-90% of children with Severe Acute Malnutrition without medical complications can be treated without being admitted to health facilities using Ready-to-use therapeutic food (RUTF). Periodical unavailability of RUTF in Nigeria undermines its use.

Methodology: This study produced and evaluated RUTF. Three samples (AOB from groundnut paste, rice flour, soybean flour, dates, milk and vegetable oil; BOC from cashew nut paste, acha flour, soybean flour, sugar, milk, vegetable oil and crayfish; and PCO from groundnut paste, guinea corn flour, soybean flour, milk, sugar and vegetable oil) were produced. Their proximate compositions were evaluated. Sensory characteristics were evaluated using 50 panelists in Bauchi, Nigeria and the results analyzed using ANOVA.

Results: The energy content (523kcal) of PCO was comparable to, while AOB (555kcal) and BOC (573kcal) were above the WHO recommendation of 520-550kcal. The fat contents (45.11g and 43.04g) of BOC and AOB respectively were higher, while that of PCO (32.14g) was within the recommendation of 45-60% from fat. The protein contents of AOB, BOC and PCO were 22.7g, 24.11g and 21.70g respectively. The ash contents (3.5g and 4.38g) of AOB and BOC were similar to that of Plumpy'Nut. BOC was the most acceptable in terms of flavor, color and consistency. There was no significant difference in flavor and color ($p=0.175$ and 0.471 respectively) but there were significant differences in consistency and taste ($p=0.025$ and 0.008 respectively) between the samples.

Conclusion: Acceptable RUTFs can be produced from locally available ingredients with adequate nutrient density.