Power Porridge: Empowering Families to Conquer Malnutrition with Local Ingredients

TOPS/FSN Network Regional Knowledge Sharing Meeting - Uganda
September 20, 2016
Power Porridge Presentation

- The Problem in Liberia
- Solutions: Short-Term & Long-Term
- Results
- What’s Next?
Nutritional Status of Liberian Children

- Nutritional status of children 6-59 mo years classified as serious with: 39% stunted, 19% underweight & 7.5% wasted (2010 ~ beginning of LAUNCH)

- 96% of Liberian children do not meet minimum standards for three basic IYCF practices (i.e. breastfed; diverse diet; eating ≥4x/day)

- Among highest fertility rates in world – 6.2 among rural women

- 14% of Liberian infants have LBW

- Malnutrition among women is highest in girls 15-19 yrs old

- High rate of adolescent pregnancy perpetuates inter-generational cycle of malnutrition
Power Porridge (PP)

- USAID/FFP funded the Liberia Agricultural Upgrading Nutrition and Child Health (LAUNCH) program; ACDI/VOCA (prime), PCI, JSI & MCI (2010-2016).

- LAUNCH imported and distributed commodities to HH with PLW and/or children ≤ 2yrs of age as the “short-term solution”.

- Porridge is commonly fed to Liberia children, consisting of starches (e.g. cassava, rice or plantain) and lacking protein & micronutrients for optimal child nutrition, health & growth.

- PCI developed highly nutritious PPs under LAUNCH in collaboration with Trauma Aid International (a local CSO) and local communities as a “long-term, sustainable solution”.

Goal of Porridge Recipes

The goal of the recipes was that they be made from foods that are:

- Locally available, widely accepted & already part of the diet
- Available year-round
- Affordable at low/no cost
- Easy to prepare and store
- Highly nutritious

Based on this goal, PCI & partners created three recipes consisting of protein, fat, carbohydrate (dried starch), and seasoning for taste.
## Power Porridge Recipes

<table>
<thead>
<tr>
<th>Eddoes &amp; Sesame Seed Porridge</th>
<th>Rice &amp; Peanut Porridge</th>
<th>Plantain &amp; Peanut Porridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix together following ingredients: 1 cup cocoyam (taro) flour 1/3 cup ground sesame seeds 4 tablespoons red palm oil 1 tablespoon dried powdered fish 1 bouillon cube</td>
<td>Mix together following ingredients: 1 cup rice flour 1/3 cup ground peanuts 4 tablespoons red palm oil 1 tablespoon dried powdered fish 1 bouillon cube</td>
<td>Mix together following ingredients: 1 cup plantain flour 1/3 cup ground peanuts 4 tablespoons red palm oil 1 tablespoon dried powdered fish 1 bouillon cube</td>
</tr>
<tr>
<td>Directions for feeding: Add three tablespoons of mixture to boiled/purified water for each feeding.</td>
<td>Directions for feeding: Add three tablespoons of mixture to boiled/purified water for each feeding.</td>
<td>Directions for feeding: Add three tablespoons of mixture to boiled/purified water for each feeding.</td>
</tr>
</tbody>
</table>

+ More oil to increase fat content  
+ Cooking in an iron pot to increase iron content  
+ Adding finely chopped green leafy vegetables and/or fruits to increase iron/vitamin A and other micronutrient intake
Components of Sustainable Recipes

- **Flexibility** - With three starch and three protein options, ingredients can be swapped as needed, allowing for variation in taste & flexibility when food access and/or availability is restricted.

- **Cost** - Affordable cost especially given the versatility of the ingredients.

- **Broad Acceptance** – Ingredients are already part of the family’s daily diet.

- **Availability** – All ingredients are local & available year round.

- **Sustainable Behavior Change** – Using community-based platforms helps ensure IYCF behavior change.
LAUNCH Care Groups

- Primary platform for health and community-based nutrition SBC
- Regular biweekly meetings
- Eight modules - including IYCF & maternal nutrition
- Porridge demonstrations
- Collaboration with TTMGs and CHVs
- Seeing results proved to be a powerful motivator for families
Lab Testing
### Nutritional Analysis of ½ Cup (i.e. 9 Tbs)

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Average complementary calorie requirements of children 6-23 mo</th>
<th>Eddoes &amp; Sesame Seed Porridge (1/2 cup = 9 Tbs)</th>
<th>Rice &amp; Peanut Porridge (1/2 cup = 9 Tbs)</th>
<th>Plantain &amp; Peanut Porridge (1/2 cup = 9 Tbs)</th>
</tr>
</thead>
</table>
| Complementary Feeding Calories for Breastfed Child per Day | Child 6-8 mo: 200 kcal  
Child 9-11 mo: 300 kcal  
Child 12-23 mo: 550 kcal | 372 kcal  
186% for 6-8 mo;  
124% for 9-11 mo;  
67% for 12-23 mo | 393 kcal  
197% for 6-8 mo;  
131% for 9-11 mo;  
71% for 12-23 mo | 450 kcal  
225% for 6-8 mo;  
150% for 9-11 mo;  
82% for 12-23 mo |
| Fat | Child 6-8 mo: 0-34%  
Child 9-11 mo: 5-38%  
Child 12-23 mo: 17-42% | 93 kcal  
25% of DV* | 78 kcal  
20% of DV | 96 kcal  
21% of DV |
| Protein | Child 6-11 mo: 11 g  
Child 12-23 mo: 13g | 12 grams  
109% for 6-11 mo  
92% for 12-23 mo | 12 grams  
109% for 6-11 mo  
92% for 12-23 mo | 18 grams  
163% for 6-11 mo  
138% for 12-23 mo |

*Daily Value (DV) or recommended amount for specific age group.*
**Micronutrients in ½ Cup (i.e. 9 Tbs)**

<table>
<thead>
<tr>
<th>Nutrient*</th>
<th>Average daily complementary requirements of children 6-23 mo.</th>
<th>Eddoes &amp; Sesame Seed Porridge (1/2 cup = 9 Tbs)</th>
<th>Rice &amp; Peanut Porridge (1/2 cup = 9 Tbs)</th>
<th>Plantain &amp; Peanut Porridge (1/2 cup = 9 Tbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>Child 6-11 mo: 11 mg Child 12-23 mo: 7 mg</td>
<td>3.6 mg</td>
<td>2.04 mg</td>
<td>1.35 mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33% for 6-11 mo 51% for 12-23 mo</td>
<td>19% for 6-11 mo 29% for 12-23 mo</td>
<td>12% for 6-11 mo 19% for 12-23 mo</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>Child 6-11 mo: 1,166 IU Child 12-23 mo: 1,333 IU</td>
<td>501 IU</td>
<td>627 IU</td>
<td>849 IU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43% for 6-11 mo 38% for 12-23 mo</td>
<td>54% for 6-11 mo 47% for 12-23 mo</td>
<td>73% for 6-11 mo 64% for 12-23 mo</td>
</tr>
<tr>
<td>Calcium</td>
<td>Child 6-11 mo: 270 mg Child 12-23 mo: 500 mg</td>
<td>92 mg</td>
<td>66 mg</td>
<td>23 mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>34% for 6-11 mo 18% for 12-23 mo</td>
<td>24% for 6-11 mo 13% for 12-23 mo</td>
<td>9% for 6-11 mo 4% for 12-23 mo</td>
</tr>
</tbody>
</table>

*Folate, Vitamin C, sodium, and potassium were also measured*
Results

“Fat Baby” Phenomenon* - Mothers, USAID/Liberia and MoH repeatedly observed “fat babies” & data showed reduced stunting, wasting & underweight

Improved Health - Mothers reported less illness among children & data supported anecdotes.

Income Generation - Extremely high demand led some women to start PP businesses.

During the Ebola crisis, PP helped families mitigate the impact of restricted food access on children due to closed markets, quarantines & bans on traditional farming practices.

Community-based Capacity Building – CGs, LMs & continued meeting & training after program end.

*Referring to chubby, healthy babies.
Summary

- The power of the porridge is in its simplicity
- PP is inexpensive & available year round
- PP has a long shelf-life (~3 months)
- Due to the ingredients, mothers can adjust to shocks they may face w/o compromising infant nutritional status
- Using community-based platforms helps ensure sustainable IYCF behavior change (including PP consumption)
What’s Next for PCI’s Power Porridge?

- Replication of the model
- “Fat Babies” in Malawi, Zambia, Guatemala, India & other countries?
- Further research needed in new countries
- Scale up in Liberia?