

# **NUTRITIONAL IMPACT OF THE TITLE II FEEDING PROGRAM TARGETING PEOPLE LIVING WITH AND AFFECTED BY HIV/AIDS IN UGANDA**

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## ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CRS	Catholic Relief Services
CSB	Corn Soy Blend
FDP	Final Distribution Point
FFP	Food for Peace
HIV	Human Immunodeficiency Virus
MUAC	Mid-upper arm circumference
PLWHAs	People Living with HIV/AIDS
TASO	The AIDS Service Organization
USAID	United States Agency for International Development
WISHH	World Initiative for Soy in Human Health

## OPERATIONAL DEFINITIONS

<b>Primary adult beneficiary</b>	HIV positive person, aged 16 years and above, newly registered on the FFP program between September 2003 and January 2004.
<b>Secondary Beneficiary</b>	A family member of the primary adult beneficiary, aged below 16 years representing HIV affected persons
<b>Primary Orphan beneficiary</b>	An FFP program beneficiary registered as an orphan aged 16 years or less having lost one or both parents to HIV/AIDS and whose serostatus is unknown

## **INTRODUCTION**

ACDI/VOCA, in conjunction with The AIDS Support Organization (TASO), CRS, World Vision and Africare, provides direct food distribution to approximately 60,000 Ugandans and their families living with HIV/AIDS under a USAID P.L. 480 Title II program that began in 2001. ACDI/VOCA is a private non-profit organization that implements projects in community development, financial services, enterprise development and agribusiness systems.

A one-year pilot study was designed to assess the benefit of supplemental feeding on the nutritional status and quality of life of 250 beneficiaries and to test the acceptability of the rations distributed. This paper presents the effects of the USAID/Food for Peace Title II HIV/AIDS direct food distribution program on the nutritional status of newly enrolled beneficiaries between September 2003 and January 2004 over four quarters.

## **FOOD DISTRIBUTION & TRAINING METHODOLOGY**

A monthly food ration of corn soya blend (CSB) and vegetable oil is provided to 15,000 individuals in rural and urban-based areas who are HIV positive and vulnerable to chronic food insecurity and up to four dependents comprising 60,000 target beneficiaries. In addition, an individual orphaned by the death of their parents from AIDS is also eligible for food rations. A single daily ration includes 300g CSB and 25g of oil. This ration provides approximately 1,333 kcal/person/day or 65% of a 2,000 kcal/day diet, the average daily requirement for an adult.

Food is distributed from 107 final distribution points (FDP) on a monthly basis. The food ration is designed to complement care and counseling activities for program participants living with HIV/AIDS currently carried out by the implementing partners. Each primary beneficiary received an eighteen-month calendar containing monthly messages on nutrition and hygiene. Additional nutrition and hygiene training on food distribution days by a team of community nutritionist and health workers at 31 FDPs ensures that program beneficiaries realize improved health. Nutrition workshops with partner community workers and counselors working directly with PLWHAs enable them to include the nutrition advice during counseling sessions. The most vulnerable beneficiaries are visited at home to gauge their hygiene and nutrition practices and advise them how to make improvements, if necessary. ACDI/VOCA also developed nutrition information banners, which are displayed at all food distributions and highlight the benefits of CSB and vegetable oil when consumed appropriately.

To enable long-term measures for food security, ACDI/VOCA works collaboratively with a number of its grantees implementing agricultural extension activities to provide outreach with PLWHAs receiving Title II food. Beneficiaries are supported to farm major crops such as maize, beans, rice, and cassava.

## **STUDY METHODOLOGY**

### ***Study sites and population***

Study sites comprised of selected areas of operation of four partner organizations subcontracted to implement the direct distribution feeding effort, namely Catholic Relief Services (CRS), World Vision, Africare and The AIDS Support Organization (TASO). A total of 12 food distribution points were visited in the districts of Masaka, Kampala, Luwero, Mukono, Ntungamo, Wakiso, and Mbarara.

The study participants were drawn from three categories of beneficiaries of the FFP program. These included:

- i. HIV positive beneficiaries 16 years and above registered on the FFP program between September 2003 – January 2004 (primary beneficiaries)
- ii. A family member of the primary beneficiary below 16 years representing an HIV affected persons (secondary beneficiaries)
- iii. A beneficiary registered as an orphan having lost one or both parents to HIV/AIDS and whose serostatus is unknown

### ***Study design***

The study was designed as a one-year prospective follow-up of respondents recruited during the baseline. Study participants were part of the Title II food beneficiaries who received 300 grams of corn-soy blend (CSB) and 25 grams of USA Vitamin A fortified vegetable oil per person per day monthly. In addition, ACIDI/VOCA provided nutrition and hygiene education sessions to FFP program beneficiaries on important nutritional and hygiene practices such as a balanced diet, variety of dishes prepared utilizing CSB, safe drinking water preparation and storage as well as the benefits of small frequent meals. Follow-up of study respondents was conducted on a quarterly basis.

### ***Sample size***

Baseline recruitment targeted 250 study participants composed of 100 primary beneficiaries, 100 secondary beneficiaries and 50 orphan beneficiaries to allow for attrition through change in participation or death.

Anticipated findings require at least 30 evaluable records from primary beneficiaries with documented HIV status and 30 evaluable records from secondary beneficiaries in the families group and 30 evaluable records from an orphan group. The final pilot results will be based on a total of 90 evaluable records.

### ***Follow-up inclusion and exclusion criteria***

Included in the quarterly follow-up were primary, secondary or orphan beneficiaries of the FFP Title II HIV/AIDS Initiative who had received food after the baseline measurement

Excluded from the quarterly follow-up were persons who were

- Primary, secondary or orphan beneficiaries of the FFP Title II HIV/AIDS Initiative who had not received any food rations after the baseline measurement
- Non-ambulatory (bed-bound) beneficiaries assessed at baseline.

### ***Data collection tools and methods***

A survey questionnaire was developed and pre-tested for use as a monitoring tool in this pilot project. A form was included in the survey questionnaire to monitor anthropometric measures of weight, head circumference, and mid-upper arm circumference every three months. Weight measures were taken utilizing a solar scale (Tanita Solar Scale, Model 1618, TANITA CORP, USA). Mid-upper arm circumference, head circumference were assessed with a non-stretch tape.

### ***Data analysis***

Anthropometric analysis was conducted using Epi Info version 3.01 (3.2) and MS Access 2000 at quarterly follow-up and compared to baseline. The quarterly data analysis sought to determine the percentage of beneficiaries who gained, maintained or reduced Anthropometric measures of weight, MUAC and head circumference compared to baseline. Data collectors used a paired comparison T-Test statistic with a statistical significance of  $P < 0.05$  on a quarterly basis.

## **RESULTS AND DISCUSSION**

Overall, food rations provided by the ACDI/VOCA Title II feeding program had a positive impact on nutritional status of people living with and affected by HIV/AIDS.

In the third quarter, a total of 149 beneficiaries were interviewed (Table 1) namely 96 primary beneficiaries (69 adult, 27 orphan) and 53 secondary beneficiaries. A majority of the primary beneficiaries interviewed at quarter three were women (Table 2). This reflects both the tendency of women to seek HIV/AIDS services in Uganda and their representation in the feeding program.

Results in changes of anthropometric measures of primary beneficiaries in Table 3 showed that over half of both adult and primary beneficiaries gained 0-3kg weight (53%), mid-upper arm circumference (74%) and head circumference (56%) indicative of improved nutritional status and muscle rebuilding. Majority of the secondary beneficiaries also gained in weight, MUAC and head circumference from the baseline measure (Table 4). Among the secondary beneficiaries, 61% gained 0-3kg weight, 58% gained MUAC and 83% gained head circumference. This could be attributed to improved food availability and nutrient intake.

The mean weight gain among primary adult, orphan and secondary beneficiaries at quarter three were statistically significant at  $p=0.000$  respectively (Table 5). In addition, the mean gains in MUAC among the primary adult ( $p=0.000$ ) and secondary beneficiaries ( $p=0.025$ ) were also statistically significant. This indicates a positive impact of the food distribution rations on nutritional status as well as appreciable muscle rebuilding due to improved nutrition.

Qualitative information obtained from the food distribution beneficiaries at quarter three revealed that the majority of beneficiaries perceived the distribution of the food rations was beneficial in increasing food availability in the home as well as improving health. Beneficiaries

explained that they were able to consume a variety of dishes prepared with CSB and vegetable oil most likely as a result of the recipes taught in the nutrition education sessions by ACDI/VOCA. In addition, they revealed that they could now consume more meals, feed their children in the morning, and enjoy a better diet in general. Corn Soy Blend was used to prepare porridge, steamed maize bread (*posho*), sauce, vegetables, beans and plantains (*Matooke*). Vegetable oil on the other hand was used to fry beans, fish, greens, beef, cassava, sauce, *Matooke* and popcorn. With respect to improved health, beneficiaries mentioned that the foods provided by the program strengthened the body, increased weight and they felt better after eating.

## **Conclusion**

Provision of the food rations resulted in improved nutritional status and health as a result of improved food availability and adoption of the nutrition education messages provided by ACDI/VOCA to FFP program beneficiaries. The study reveals that consumption of supplemental diets rich in energy and protein will improve fat deposition and rebuilding of muscle tissue in people affected by HIV/AIDS.

## **Acknowledgement**

We thank study respondents, the food aid beneficiaries of TASO, Africare, CRS and World Vision for their participation. We also acknowledge the work by data collectors at The Ssemwanga Centre.

**Table 1. Number of Beneficiaries Interviewed by Category (Baseline & Quarter 3)**

<b>Beneficiary Category</b>	<b>Baseline</b>	<b>Quarter 3</b>
Primary Adult	104	69
Primary Orphan	37	27
Secondary	88	53
Total	229	149

**Table 2. Number of Primary Beneficiaries by Gender (Baseline & Quarter 3)**

<b>Sex of primary beneficiaries</b>	<b>Baseline</b>	<b>Quarter 3</b>
Male	35	20
Female	106	76
Total	141	96

**Table 3. Changes in Anthropometric Measures of Primary Beneficiaries (Quarter 3 from Baseline).**

<b>Beneficiary/ Anthropometric indicator change</b>	<b>Primary adult beneficiary</b>		<b>Primary orphan beneficiary</b>		<b>Total</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>Weight</b>						
Gained (0 – 3kg)	28	44	17	74	45	53
Gained (above 3kg)	20	32	5	22	25	29
Maintained weight	1	2	1	4	2	2
Lost	14	22	0	0	14	16
<b>MUAC</b>						
Gained	45	75	15	71	60	74
Maintained	2	3	0	0	2	3
Lost	13	22	6	29	19	23
<b>Head circumference</b>						
Gained	33	54	14	61	47	56
Maintained	5	8	1	6	6	7
Lost	23	38	8	35	31	37

**Table 4. Changes in Anthropometric Measures of Secondary Beneficiaries (Quarter 3 from Baseline).**

<b>Anthropometric indicator change</b>	<b>N</b>	<b>%</b>
<b>Weight</b>		
Gained (0 – 3kg)	29	61
Gained (above 3kg)	14	29
Maintained weight	3	6
Lost	2	4
<b>MUAC</b>		
Gained	25	58
Maintained	2	5
Lost	16	37
<b>Head circumference</b>		
Gained	39	83
Maintained	2	4
Lost	6	13

**Table 5. Mean Change in Anthropometric Measures (Quarter 3 from Baseline)**

<b>Beneficiary/ Anthropometric Indicator</b>	<b>Mean Change</b>	<b>t-value</b>	<b>P-value</b>
<b>Primary Adult</b>			
Weight	2.06	3.81	0.000*
MUAC	0.99	5.25	0.000*
Head Circumference	0.67	1.16	0.251
<b>Primary Orphan</b>			
Weight	2.32	6.82	0.000*
MUAC	1.74	1.24	0.230
Head Circumference	1.61	1.16	0.260
<b>Secondary</b>			
Weight	2.32	8.02	0.000*
MUAC	0.31	2.31	0.025*
Head circumference	-0.23	0.36	0.719

\*Statistically significant P-value (P<0.05)