



The BHC supervisor talks with a mother, who receives a HBCN kit

Malawi, R. Retzius, Compact/2004

# Nutrition Supplement for People With HIV

Summary of unpublished research<sup>1</sup>



One of the HBCN kits containing Afya

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Compact Norway has developed a new product called AFYA to be used as a nutrition supplement for households affected by HIV/AIDS and TB in resource poor settings, within the context of Home Based Care (HBC) programmes. Table 1 outlines the nutritional profile of AFYA. The acceptability of AFYA included in two types of HBC kits was tested in a study carried out in Lilongwe, Malawi. The HBC kits used in this study were the Community Volunteer (CV) kit for use by a trained health worker and the Home Based Care and Nutrition (HBCN) kit for use by care takers at home (see table 2).

The main objectives of the study were:

- a) to determine whether AFYA can be used over a long period as a supplement to other foods without creating adverse effects
- b) to investigate acceptability in terms of taste/smell, packaging and practicality of use
- c) to gain feedback on the value of the kit itself and the items in it.

## Study design

The study was conducted at two sites in Lilongwe, Likuni and Alinafe, where HBC is supported by CHAM (Christian Hospital Association of Malawi). A total of 75 home based care patients were enrolled into the study. These 75 study subjects were divided into two groups based on the type of the Medeco HBC kit they received. A total of 11 subjects used the Community Volunteer (CV) kit while the remainder (64 patients) used the Home Based Care Nutrition (HBCN) kit. Three packets of AFYA (180 g), containing 840 kcal and approximately one recommended daily allowance (RDA) of vitamins and micro-minerals, were provided to each patient per day.

The acceptability of AFYA was assessed through the use of a patient diary which was completed daily and an AFYA qualitative questionnaire completed every 10 days. Mid-Upper-Arm-Circumference (MUAC) was measured in order to monitor any increase or

decrease in weight during the study period. Trained supervisors at Alinafe and Likuni hospitals supported the HBC volunteers through regular quality control visits.

## Study findings

Table 3 indicates the age and illness profile of the patients who took part in this study<sup>2</sup>. A total of 93.2% of the patients managed to consume the recommended daily ration of three packets of AFYA, providing a total of 840 kcal per day. Sixty-two of the patients (86.1%) reported an overall improvement in their health, while 79.7% of the patients said AFYA tasted good and was appetizing. Overall, 70.8% of the patients said that what they liked most about AFYA was its flavour.

At the beginning of the study, only three of the adults were found to be severely malnourished (MUAC <16 cm), 9.3% were moderately malnourished (MUAC >16 and <18.5 cm) while the rest had a normal arm circumference measurement (MUAC >18.5 cm)<sup>3</sup>. Of the three severely malnourished adults, two died just before the end of the study, while the third patient showed improvements in MUAC by the end of the study. Overall, 82% of the patients registered an increase in weight based on MUAC readings.

## Discussion

These findings suggest that AFYA could be used to restore nutritional status among HIV/AIDS and TB patients within the context of Home Based Care. However, it should be noted that this study did not verify whether the observed weight gain was due to both lean and adipose tissue. Lean tissue is the functional tissue that includes major components of the immune system. Sharing of AFYA among family members was limited, suggesting that AFYA may be perceived as a specialised supplement for targeting HBC patients.

The contribution of Medeco CV and HBCN kits to the health and hygiene of the study subjects is very important. As health directly impacts nutrition, the kits will have contributed to the nutritional effect separately from the AFYA. Due to its compact nature, AFYA can easily be incorporated into a Home Based Care medical kit for HIV programmes in resource poor settings. However, most of the respondents raised concerns about their inability to replenish the Medeco CV and HBCN kits due to lack of money. It is unlikely that families could sustain provision of HBC kits and nutrition supplements without external support.

The composition of AFYA should be flexible and based on latest research findings. The most recent study carried out in Tanzania has shown that some selected vitamins taken in stipulated doses are important determinants for slowing down HIV disease progression and mortality<sup>4</sup>. These types of study should inform future product development.

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<sup>1</sup> Possibility of using AFYA, as a nutrition supplement contained in a Home Based Care kit for HIV/AIDS and TB patients – an acceptability study carried out in Lilongwe, Malawi. COMPACT. Available online at <http://www.compact.no/nyhet.cfm?id=51968>

<sup>2</sup> Serial MUAC measurement is not a standard method for assessing change in weight (eds).

<sup>3</sup> Mid-Upper Arm Circumference (MUAC) theoretical and practical problems, <http://www.unsystem.org/scn/archives/adults/ch06.htm>

<sup>4</sup> Fawzi WW, Msamanga GI, Spiegelman D, et al. A randomized trial of multivitamin supplements and HIV disease progression and mortality. *N Engl J Med* 2004; 351: 23-32.

| Energy profile  | Nutrient content/100g |
|---|-----------------------|
| Energy: 1950 kJ/468 kcal/100g   | Carbohydrate: 54g     |
| Protein: 15.6%  | Protein: 18g          |
| Fat: 37.7%  | Total fat: 20g        |
| Carbohydrates: 46.7%  | saturated: 8.1g       |
|   | monounsaturated: 8.1g |
|   | polyunsaturated: 3.8g |
|   | Ω-3/ Ω-6 ratio: 0.14  |
|   | Ash: < 4g             |
|   | Humidity: < 4g        |
| <b>Shelf life</b>   |                       |
| 18 months at moderate temperature and humidity, with a minor decrease in some vitamins. |                       |
| <b>Pack size</b>  | 60g (2x30g tablets)   |

| Community Volunteer Kit (CV Kit) | Home Based Care and Nutrition Kit (HBCN Kit) |
|----------------------------------|--|
| Paracetamol tablets              | Oral rehydration salt                        |
| ReSomal                          | Miconazole                                   |
| Latex Gloves                     | Condoms                                      |
| Hand towel                       | Gentian Violet crystals                      |
| Bed sheet                        | Bed sheet                                    |
| Cotton wool                      | Hand towel                                   |
| Apron, plastic disposable        | Cotton wool                                  |
| Thermometer                      | Gauze pads                                   |
| Scissors, surgical straight      | Adhesive tape                                |
| Forceps                          | Wound plaster                                |
| Swab                             | Gauze bandage                                |
| Gauze pad                        | Soap bar                                     |
| Adhesive tape                    | Washing detergent                            |
| Gauze bandage                    | Calamine lotion                              |
| Soap bar                         | AFYA   |
| Sphygmomanometer                 |  |
| Stethoscope                      |  |
| Bedpan                           |  |
| AFYA                             |  |

Kits produced by Medeco

| Variable          | n                             | %   |      |
|-------------------|-------------------------------|-----|------|
| Gender            | male                          | 34  | 45.3 |
|                   | female                        | 41  | 54.7 |
|                   | total                         | 75  | 100  |
| Hospital attended | Alinafe                       | 35  | 46.7 |
|                   | Likuni                        | 37  | 49.3 |
|                   | Bottom                        | 3   | 4.0  |
|                   | total                         | 75  | 100  |
| Type of illness   | HIV-related                   | 27  | 37.0 |
|                   | TB/PTB                        | 38  | 52.1 |
|                   | Other, e.g. malaria, diabetes | 8   | 10.9 |
| total             | 73                            | 100 |      |