

Evaluation of Food by Prescription Program Supplement Use among People Living with HIV/AIDS, in Gucha Sub-County in Kisii County

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Abstract

It is widely accepted that nutritional health is essential for persons living with HIV/AIDS (PLWHIV/AIDS) to maximize the period of asymptomatic infection, and improve adherence. HIV infection affects nutritional health in three ways: Reduced food intake, alters metabolic process and impaired nutrient absorption. Unfortunately, when these occur, at the same time, they can rapidly accelerate weight loss and cause malnutrition simultaneously. This therefore contributes to the progress of the burden of the disease (HIV/AIDS). The World Health Organization (WHO) noted with a lot of concern that to fight the scourge well, there must be a program dubbed as Foods by Prescription (FBP) which will assist those who are HIV positive and they are malnourished. It is noted that those who have the virus and they are in asymptomatic stage, their energy requirements go up by 10% for the adults and children who have the virus, theirs is 20-30%. For the symptomatic cases, for the adults, their energy requirements goes up by 20-30% and children, their energy requirements goes up to 50-100% when compared to normal people who do not have a disease. There is increasing evidence that malnutrition coupled with HIV/AIDS directly influences survival; significant weight loss in HIV, increased risk of opportunistic infections (OIS), complication.

Keywords:

Nutritional health; Significant weight loss; HIV

Introduction

And early death [1-6]. Malnutrition is also associated with poor birth out-comes among HIV-positive women [6-12]. Moreover, access to adequate nutritious food is especially difficult for PLWHIV/AIDS as the illness often reduces household productivity and income as well, forcing families to sell productive assets, spend savings on food and medicine, and withdraw children from school to put them to work or care for HIV-positive adults [10, 11]. Never the less, the program has been there for the last one decade. The program

has indeed boosted the efforts of managing the burden caused by HIV. Many clients have indeed responded well to both supplemental and therapeutic feeds provided by the program. The adherence to Ant-Retroviral Therapy (ART) is currently good due FBP. While the benefits are enormous of the program, Gucha Sub-county for example has realized that clients who merit to the program take more than three months to graduate/discharge. Others even take more than a year (50 clients of 1175 took more than a year in the program). This is according to Gucha NASCOP Report- 2014. So it is not known how long the client should stay in the program. In Ethiopia, they have spread it from 4 months to 6 months. Again, the program has not been evaluated to determine its success in Gucha Sub- County in general. Furthermore, the clients who happen to come from a poor resource set-up families, when exit the program, it is not clear what they do to maintain their restored weight. Therefore, my study will try to find out these in Gucha Sub-county.

Who are the eligible beneficiaries?

The first category is for those who are HIV-positive and are at least 6 months old and who are malnourished (under-nutrition).The second category is for those ones (children) who are orphaned and vulnerable [12-20]. In my case, I will deal with the first category, for the malnourished HIV-positive clients.

Global view on FBP

In less than a decade, multiple FBP programs have been designed to meet needs of malnourished clients, who are HIV-positive [21, 22]. The World Health Organization looks at fighting the burden of HIV/AIDS through one part of supplementation and another part of treatment (ART). Although HIV testing is increasingly available and efforts to support the nutritional needs of people living with HIV have intensified appreciably, anti-retroviral therapy (ART) service providers continue to report large numbers of clients presenting with advanced disease and acute malnutrition. In some ART programs, as many as 33% of all first-visit clients are unable to walk into the clinic without assistance, correlating

with high rates of mortality in the 90 days of treatment. In response, there has been a rapid proliferation of Food by prescription (FBP) programs, designed to ensure efficient and effective nutrition care rehabilitation for people enrolled in HIV care and treatment programs [9]. Marston, in his *Journal of Medicine*, 2004, indicated that, "FBP had attracted a plethora of donors and stake holders: multiple UN agencies including WFP, WHO, UNICEF, USAID's Food for peace (FFP), CDC, GFATM, and Nutrition Technical Assistance Project (FANTA) [23-25]."

The Ethiopian view on FBP

Nutrition interventions have been successful in Ethiopia in the management of HIV/AIDS and many clients enrolled into such programs have markedly improved both their body weight and general health [9]. The FBP program is one of the strategies that addresses under nutrition among the PLWHIV/AIDS and their vulnerable family members through proper nutritional assessment, counseling and support (NACS) [8, 9].

With Ethiopia beginning this program in 2010 [10]. The foods and ministry of health of Ethiopia launched a comprehensive National Nutrition Program, which included nutrition and HIV/AIDS as part of its complete service delivery, and also emphasized the linking of nutrition and HIV/AIDS programs with other livelihood programs [11].

Ethiopia has integrated HIV and nutrition interventions based on the patient's nutritional status [9, 13].

The Kenyan view on FBP

The Kenya National HIV/AIDS strategic plan and National health sector strategic plan (2005-2010) underlined the need to effectively address malnutrition among people living with HIV infection and those affected by the pandemic. In line with this position and with support from the President's Emergency Fund for AIDS Relief (PEPFAR), USAID/Kenya initiated a food by prescription program in collaboration with the National AIDS and STI control program (NASCOP) in the ministry of health (MOH) Insta products Ltd. (Kenya). At the time of this review in November 2007, the program provided fortified blended flour (FBF) by prescription to malnourished adults living with HIV, HIV-positive pregnant and post-partum women (P/PP) and orphans and vulnerable children (OVC) who are either clinically malnourished or at risk of malnutrition. This was to make HCPs get to understand about FBP so as to strengthen the program.

Gucha sub-county

Gucha is one of the sub-counties in Kisii County, Kenya. It is inhabited by members of Abagusii community and has a population of approximately 105,000 people who are mainly small scale farmers. It covers an area of 105 square kilometers, with a population density of 955 persons/square kilometers. The ratio of female to male is 13:12 and has a population growth of 2.3%. It borders Kenyena to the South, Nyamache to the East, south Mugirango to the West, and Nyaribari cache to the North. It is a rich agricultural land that is devoted to farming, with heavy rainfall throughout the year (CBS 2009). It has three administrative locations and its

security is good. However, HIV preference is 8% 1032 clients are put on Care and ART for both ARVs and FBP. Food supplements and therapeutic feeds are always prescribed to those clients who meet the requirements for supplementation. Nevertheless, some clients do not take the normal time of three months to graduate. This means that these clients remain in the program for longer time than expected. The minutes of the Sub-county Health Management Team (SHMT) coordinated by the Sub-county Medical Officer of Health (SMOH) shows that adherence to the ARVS is greatly affected by malnutrition. In this regard, it is quite noting that there could be factors associated with FBP use among the PLWHIV/AIDS. The FBP program at the sub-county level is coordinated by the sub-county nutrition officer of health (SNOH) and care is available free at all government health facilities [26-28].

Statement of the problem

In less than a decade, the country has witnessed a proliferation of Foods by Prescription program (FBP) to all Patient Support Centers (PSC). The program has indeed boosted the efforts of managing the burden caused by HIV. Many clients have indeed responded well to both supplemental and therapeutic feeds provided by the program. The adherence to Ant-Retroviral Therapy (ART) is currently good due FBP. While the benefits are enormous of the program, Gucha Sub-county for example has realized that clients who merit to the program take more than three months to graduate/discharge. Others even take more than a year (50 clients of 1032 took more than a year in the program). This is according to Gucha NASCOP Report-2014. So it is not known how long the client should stay in the program. In Ethiopia, they have spread it from 4 months to 6 months. Again, the program has not been evaluated to determine its success in Gucha Sub-County in general. Furthermore, the clients who happen to come from a poor resource set-up families, when exit the program, it is not clear what they do to maintain their restored weight. Therefore, my study will try to find out these in Gucha Sub-county and advice accordingly [29].

Justification of the study

No research has been done in Gucha Sub-county and even the entire Kisii County which has evaluated the FBP program. By doing this research, the findings will help the policy makers and implementers, and stakeholders prepare proper utilization of FBP. Furthermore, it will help them find a solution for those clients from a poor resource set-up, who have been in the program and have been discharged, to continue with their normal life without supplements.

Significance of the study

Understanding the FBP program enhances ART adherence of HIV positive people and the factors hindering the same process. Therefore proper formulation of policies will be arrived at by the policy makers and stakeholders and will help in the formulation of strategies geared towards the reduction

of the burden caused by the disease (HIV/AIDS) and improve productivity amongst people with the disease. The findings, therefore, can also be used to develop statistical model that can be used to improve the adherence of foods by prescription supplement use well among the PLWHIV/AIDS.

Scope of the study

The study is focusing on the FBP program which is used by people living with HIV/AIDS in Gucha sub-county, in Kisii County, Kenya. Only those who are enrolled in the program of Foods by Prescription will be interviewed from the category of PLWHIV/AIDS. 8 PSC facilities will be involved in the study.

Limitation of the study

The study looks at Foods by Prescription supplement use among the PLWHIV/AIDS, and therefore, does not involve other foods which are not prescribed for. Again not all people who are living with HIV/AIDS, the study (research) can benefit.

Research Methodology

Location of the study

The study was carried out in Gucha sub-county which is one of the nine sub-counties in Kisii County. It borders Nyaribari cache to the North, South Mugirango to the West, Nyamache to the East and Kenyena to the South. It has approximately 105,000 people. 8 PSCs were involved in the study; the sub-county referral hospital, one model health center and six dispensaries. These were the only facilities that offered PSC services.

Study design

This was a cross-sectional study which used both quantitative and qualitative methods. All clients, who were in the program of FBP, were interviewed through informant interviews. And a checklist was used to extract the BMIs and MUACs of the clients through observation.

Study population

We used inclusive and exclusive criteria for study population, and willingly were asked to be interviewed through informant interviews. Respondents who were less than 11 years were not interviewed. Those above 11 years but less than 80 years were interviewed. Bed-ridden respondents were not interviewed.

Sampling techniques

Fisher's formula (1997) was used to determine the sample size based on the clients attendance.

$$N = Z^2 PQ / D^2$$

Where,

N=desired sample greater than 10000

Z=the normal deviation of 95% confidence interval (1.96)

P=the proportion in the target population estimated to be in the program of FBP (malnourished prevalence for HIV clients=50%, according to Gucha SCHIS report for NASCOP, 2014).

$$Q = 1 - P$$

D=level of precision (set at +-5% or +-0.05)

By substituting the figures,

$$n = 382.16$$

$$= 382$$

Since the population was less than 10000, (1032 clients who were on care and ART, 2014 cumulatively. WHERE, ADULTS WERE=978 & CHILDREN WERE=54), the following formula; finite populations correction of proportions was used to correct and come up with the final sample size.

NOTE:

FBP is a quarterly program.

Then,

$$nf = n / (1 + (n/N))$$

$$= 382.16 / (1 + 382.16/258)$$

$$= 154$$

Sampling method

Stratified sampling method was used in this study. The sub-county was divided into 8 (eight) catchment populations/strata representing eight facilities. The criteria of inclusive and exclusive method was used; Less than 11 years respondents were not interviewed, those above 80 years too were not and bed-ridden respondents equally were not interviewed. Respondents who were between 11 years and 80 years were interviewed.

NOTE: Caretakers were not allowed to participate in the interviews.

Instruments

The study used a semi-structured questionnaire to collect primary quantitative and qualitative data. A checklist was used for observational data, i.e., BMIs and MUACs of program respondents. MUAC tapes, BMI wheels and scientific calculators were used to identify nutrition status of the respondents.

Reliability

Was determined by pre-testing the questionnaire, by use of the test and retest method at Gucha sub-county hospital, using respondents who were not part of the study sample. The research assistants who administered the questionnaire were trained on questions thus ensured uniformity.

Validity

The research used quantitative and qualitative variables which were explanatory variables to test for validity of research instruments.

Piloting

Ten questionnaires were administered at Gucha sub-county for suitability and result put on excel for scrutiny.

Data collection procedures

The questionnaires were administered by research assistants, using English and Ekegusii languages. This facilitated uniform understanding of the questions because some of the respondents were not well conversant with English language. Eight medical training college students on sub-county experience (community health and extension students) were trained on the purpose of the study, the objectives, so as to translate into local dialect. Checking questionnaires for completeness was done for accuracy of data collected.

Data analysis and presentation

The questionnaires were checked for completeness and consistency of information at the end of every data collection day and before storage. Data captured were done using Excel software. The data from the completed data were cleared, recorded, coded and entered into the computer using the statistical package of social sciences (SPSS) version 17.0 for windows for analysis. Basic descriptive statistics and charts were used to summarize the findings; attitude of the client living with HIV towards FBP, evaluation of the performance of the program and factors that affect the performance in a poor resource set-up through mean or proportion. All continuous variables were presented as mean, median or proportion. Categorical variables were presented as bar charts or pie charts. Correlation analysis was used to examine the relationship between dependent variable and explanatory variables on FBP program.

Results and Discussion

Performance of FBP program among the PLHIV/AIDS

One way of addressing malnutrition among HIV/AIDS patients is through food by prescription program (FBP). Available evidence on adherence levels and factors associated with these sorts of programs are limited. The study was conducted among 149 patients in the quantitative study with a 100% response rate as witnessed in the (Table 1).

Table 1 The study was conducted among 149 patients in the quantitative study with a 100% response rate as witnessed.

Gender	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent

Do you feel it is of some help to your health?						
	149	100.00%	0	0.00%	149	100.00%

Of these, 104 (69.8%) of the respondents were female and 45 (30.2%) were male, their ages ranged from 11 years to 74 years a range of 64 years and a mean of 36.01 years. From the study it was found out that of the respondents, 117 (78.52%) their BMI was recorded and a partly 32 (21.48%) their BMI was not recorded the reason being of those who were not supposed to record the BMI were either expectant mothers or those below the age of 18 who are by law not supposed to take a body mass index.

From the study it was also discovered that, 148 (99.33%) were Christians and 1 (0.64%) were Muslims. No Hindu who was recorded in the study despite being included in the questionnaire showing that the scope of the study was not carried in a cosmopolitan area (Table 2 and Figure 1).

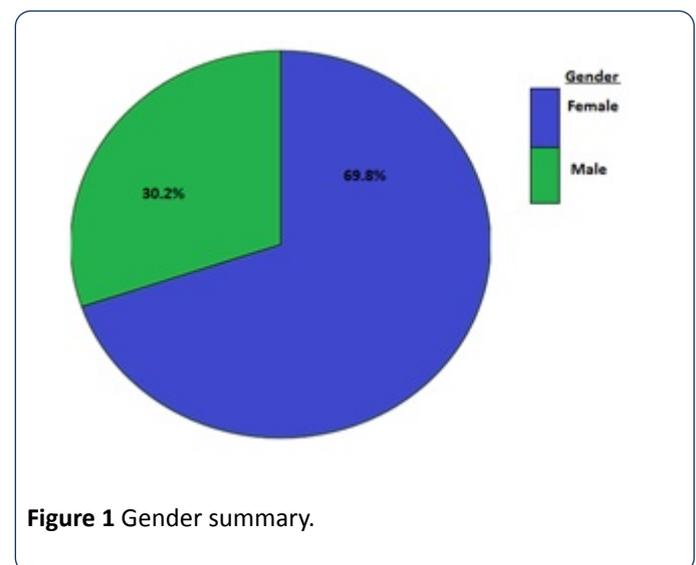


Figure 1 Gender summary.

Table 2 Of the total respondents 50 (33.56%) did not go beyond primary level of education, 76 (51.01%) secondary and another 22 (15.43%) went beyond secondary education.

		Do you feel it is of some help to your health		Total
		All the times	Not all	
Gender	Female	104	0	104
	Male	44	1	45
Total		148	1	149

From the study on the performance, on the question on whether the program is of any help to them, the response was 100%, with 104 (100%) of the female gender agreed, 44 (97.78%) of male also agreed, however 2.22% (1) disagreed that it was not of help at all the time.

It was not understood why he disagreed with the program as indicated on the table and the pie chart above (Table 3 and Figure 2).

the program more popular for management of malnutrition among PLWHIV/AIDS (Figure 4).

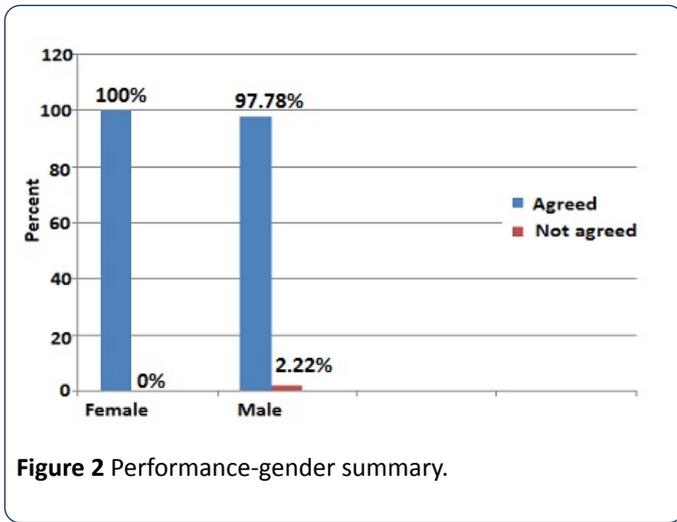


Figure 2 Performance-gender summary.

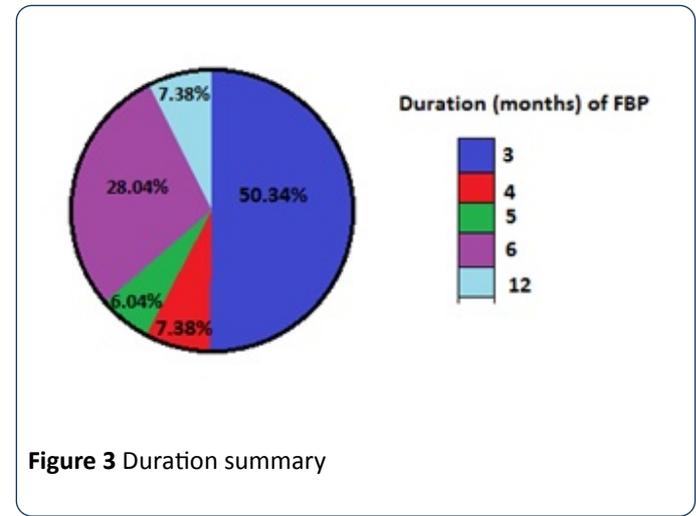


Figure 3 Duration summary

Table 3 The duration of FBP.

Table 4 Loss of weight, weak and loss of appetite, hence chronic energy deficiencies.

Duration (months)	Frequency	Percent	Valid percent	Cumulative Percent
3	75	50.34%	50.34%	50.34%
4	11	7.38%	7.38%	57.72%
5	9	6.04%	6.04%	63.76%
6	43	28.86%	28.86%	92.62%
12	11	7.38%	7.38%	100%

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid gained weight	1100.00%	7.4%	740.00%	7.4
strength and energy	80 %	53.7%	53.7%	61.1
adherence to ARVS	57%	37.6%	37.6%	98.7
increased appetite	1%	0.7%	0.7%	99.3
			0	0
Total	149	100	100	

Is the duration of FBP enough?

More than half of the respondents, 75 (50.34%) agreed that the duration was enough, however the rest differed with the duration.

11 (7.38%) of them, said that they want the program added one more month (4 months), 9 (6.04%) of the respondents said that the program should be added two more months (5 months), 43 (28.86%) of the respondents, said the program to be added three more months (6 months) and the rest, 11 (7.38%) of the respondents, said that they wanted the program to be added 9 more months (12 months).

Most of those who disagreed with the duration come from a poor resource set-up. In general, the duration was enough as per the most respondents, who agreed with it (Table 4 and Figure 3).

Loss of weight, weak and loss of appetite, hence chronic energy deficiencies, happens to be symptoms of HIV and AIDS, but from the study respondents argued why the program was of help to them, 11 (7.4%) said they had gained weight this can be attributed from the BMI and MUAC that were carried on relevant groups, 80 (53.7%) gained energy and were strong, 57 (38.3%) made them adhere to ARVS and 1 (0.7%) argued that his/her appetite had improved, in general the program had a tremendous positive impact among PLWHIV/AIDS which makes

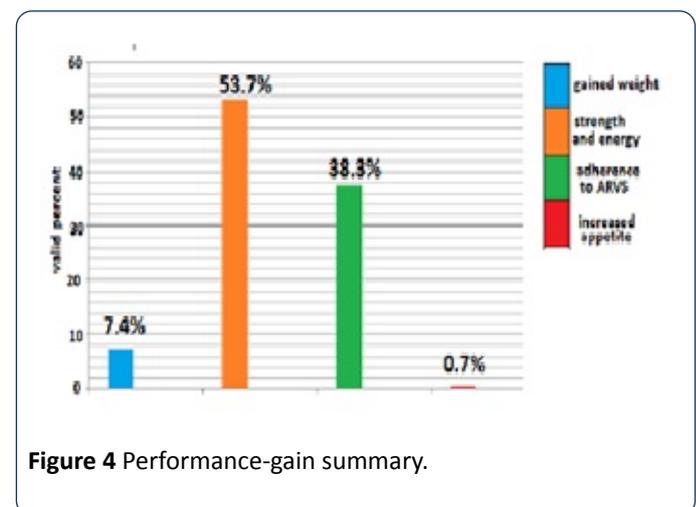


Figure 4 Performance-gain summary.

Social factors that are affecting the program

Size of the family

The size of the family is a big indicator of the performance of the program. This is because the program needs food which accompanies the FBP under the program.

A large family would be strenuous for one to raise enough food for the program in a setup of poor resource like the Gucha sub county (**Table 5**).

Table 5 Size of family meals per day cross-tabulation.

Count		meals_per_day			Total
		1	2	3	
Size of family	0	0	16	7	23
	2	0	0	1	1
	3	0	5	13	18
	4	0	7	12	19
	5	1	11	20	32
	6	0	8	13	21
	7	0	4	10	14
	8	0	3	11	14
	10	1	1	3	5
	11	1	0	0	1
	14	1	0	0	1
Total		4	55	90	149

Occupation is also another social economic factor that has an effect on the program, from the table above a patient who is a farmer is more likely to have either one meal or 2 meals in a day this is due to low income associated with this kind of family set up. This is also the case with a conductor, a driver and masonry (**Table 6**).

Table 6 Occupation meals per day cross-tabulation.

Count		Meals per day			Total
		1	2	3	
Occupation	Farmer	58	35	2	95
	police officer	0	0	2	2
	Teacher	0	2	7	9
	health worker	0	0	4	4
	Conductor	0	1	0	1
	Businessman	0	0	3	3
	Masonry	0	0	2	2
	pupil/student	1	15	13	29
	Driver	0	1	3	4

Total		4	55	90	149
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On the other hand an employed officer is likely to have at least 2 meals in a day, i.e., police officer, a teacher and a health worker this is because of the income associated with this occupation. As for the student, he is likely to either have 3 meals 2 or 1 depending on the family he or she hails from.

As far as the study is concerned, occupation is key to the performance of the program, therefore implementers of the program should come with ways to empower PLWHIV/AIDS in generating income from other activities to continue with normal life after exit of the FBP program; Mostly members from poor resource set up. In summary, 95 (63.76%) of the respondents were farmers.

Of these, 58 (61.05%) had one (1) meal, 35 (36.84%) had two (2) meals and 2 (2.11%) had three (3) meals. For the case of a teacher, who were 9 (6.04%) of the total respondents, no teacher who had one (1) meal, 2 (22.22%) had two (2) meals and 7 (77.78%) had three (3) meals. 29 (19.46%) of the respondents were students and pupils.

Of these, 1 (3.45%) had one (1) meal, 15 (51.72%) had two (2) meals and 13 (44.83%) had three (3) meals with their families.

The rest of the respondents; 16 (10.74%) who represent the other cadres, 2 (12.50%) of the cadres had two (2) meals while 14 (87.50%) had three (3) meals. There was no case of one meal in these cadres. Overall, 4 (2.69%) of the respondents, had one (1) meal, 55 (36.91%) of the respondents had two (2) meals and 90 (60.40%) had three (3) meals (**Table 7** and **Figures 5 and 6**).

Table 7 Option no table.

Sachets	Frequency	percent	Valid percent	Cumulative percent
5	9	11.54%	11.54%	11.54%
10	25	32.05%	32.05%	43.59%
15	44	56.41%	56.41%	100%

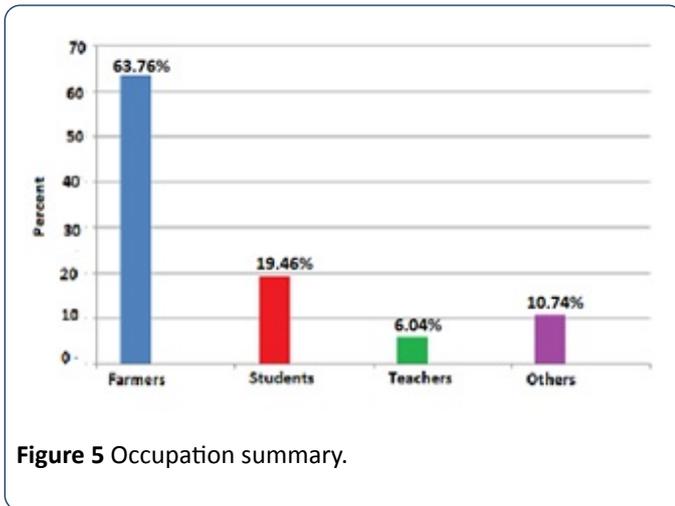


Figure 5 Occupation summary.

On whether the FBP was enough, 71 (47.65%) of the respondents agreed that it was enough while 78 (52.35%) disagreed. 9 (11.54%) of those who disagreed, said that they wanted 5 sachets more added, 25 (32.05%) of those who disagreed said that, they wanted 10 sachets more added, and 44 (56.41%) of those who disagreed said that, they wanted 15 more sachets added.

On whether food was shared, 12 (8.05%) of the respondents agreed that they share with their children while 137 (91.95%) of the respondents said they did not share.

Indeed this one affected the fight against malnutrition given that their BMI/MUAC did improve as expected (Table 8 and Figure 6).

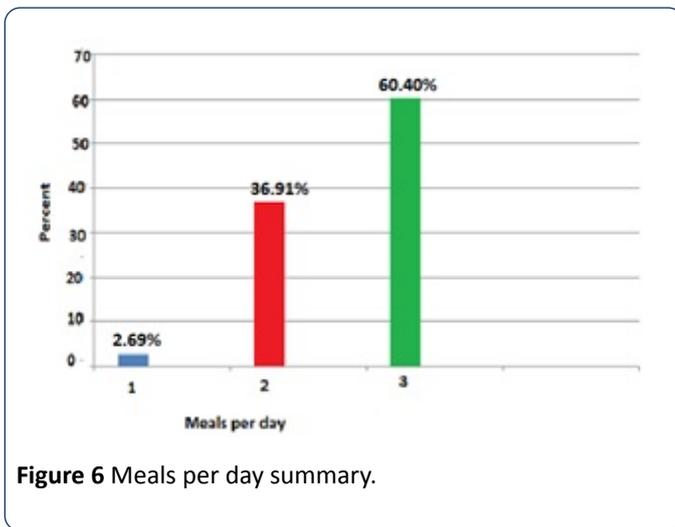


Figure 6 Meals per day summary.

Table 8 Food supplement.

Response	Frequency	Percent	Valid percent	Cumulative percent
Yes	12	8.05%	8.05%	8.05%
No	137	91.95%	91.95%	100%

On whether the respondents missed supplementation revisit, 2 (1.34%) of the respondents agreed, due to forgetting

the return date, 147 (98.66%) of the respondents did not miss. These respondents did not improve their BMI/MUAC (Table 9 and Figure 7).

Table 9 Level of education is FBP of any help to your health?

Level of education	Count	Is FBP of any help to your health		Total
		Yes	No	
Level of education	Primary	10	40	50
	Secondary	50	27	77
	Tertiary	22	0	22
Total		149	0	149

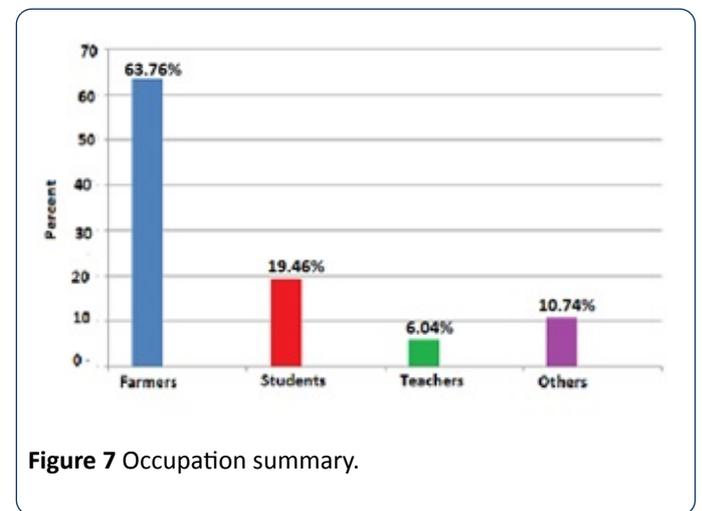


Figure 7 Occupation summary.

The level of education also plays a key role as far as the program is concerned, from the table above 10 (20%) of the respondents agreed with the program and 40 (80%) Of the respondents who have primary education did not agree that the program is of help to their health status, secondary level respondents 50 (64.93%) agreed against 27 (35.07%) who disagreed with the program on the other hand 22 (100%) of those with tertiary level agreed that the program was of benefit.

Therefore low education or rather illiteracy was a hinder to the program compared to the learned category (Table 10 and Figure 8).

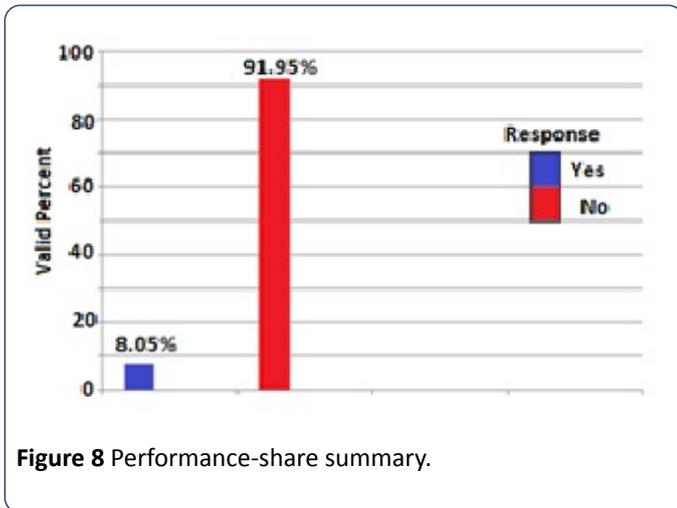


Figure 8 Performance-share summary.

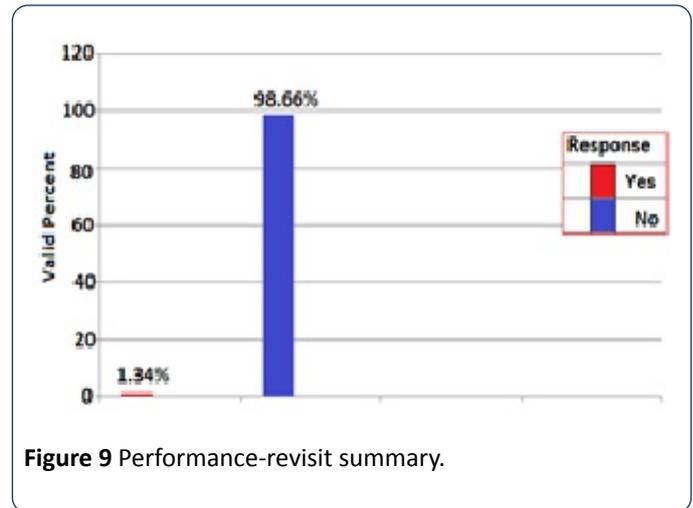


Figure 9 Performance-revisit summary.

Table 10 The level of education also plays a key role as far as the program is concerned.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All the time	145	97.3	97.3	97.3
	Sometimes	3	2	2	99.3
	Not all	1	0.7	0.7	100
	Total	149	100	100	

Factors that influences the performance of FBP program in a poor-resource

Smell

As a result of stigma most of the patients in most cases do not like the smell of the food offered by the program this may also be attributed to the result of stigma and isolation from other members of the public from this study as witnessed in the table smell of the food was not problem as 145 (97.3%) didn't have a problem with the smell of the food under FBP program 3 (2%) liked the smell whereas 1 (0.7%) did not like the smell all the times, in general smell had no impact on the program (Figure 9).

From the figure above it is clear that the mean BMI in the first revisit was greater than the entry means BMI and it was less than the mean BMI in the second revisit.

This shows that the program has a positive impact of fighting under nutrition among the PLWHA (Figures 10 and 11).

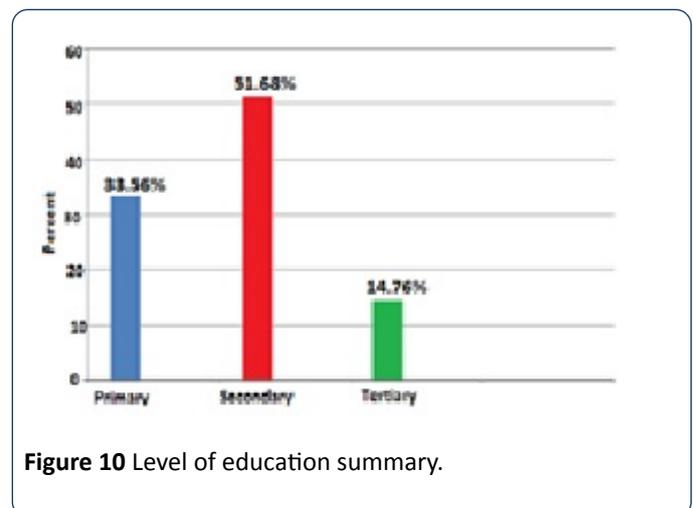


Figure 10 Level of education summary.

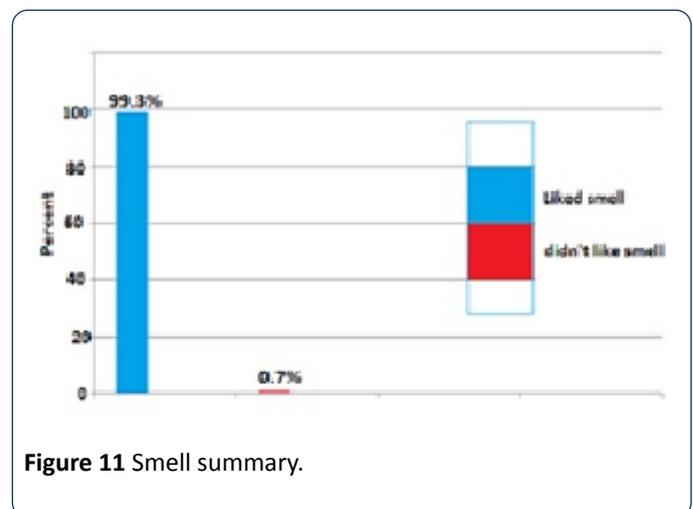


Figure 11 Smell summary.

The patients' MUAC also shows that there was improvement; the MUAC was the best indicator of the respondents' performance for expectant mothers and those who are less than 18 years, showing the impact of the program.

In summary, 32 (21.48%) of the respondents were taken MUAC when compared to 117 (78.52%) whose BMI were taken.

Almost all the participants 145 (97.3%) liked the taste of the food 3 (2.0%) did not like the food all the times and a partly 0.7% did not like the food all the times.

From the above response we can deduce that their attitude towards the program was positive and other attitude questions like smell colour package as shown in other tables (Figure 12).

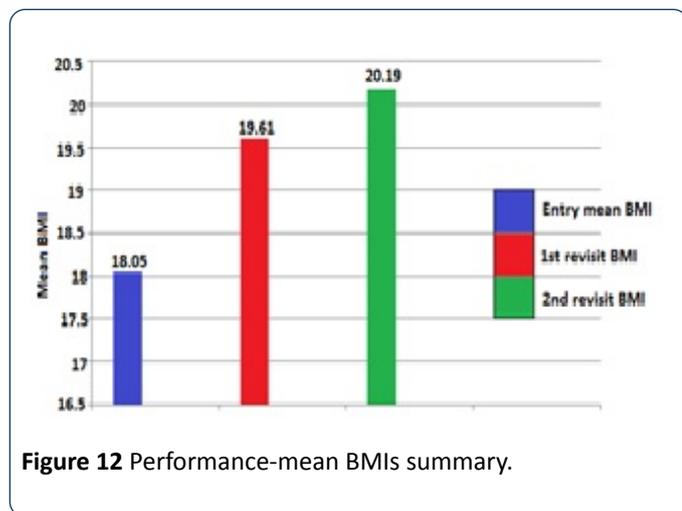


Figure 12 Performance-mean BMIs summary.

On the quality of the food under FBP program 64 (43.0%) liked the quality sometimes, 76 (51.0%) liked the quality all the times and a partly 9 (6.0%) did not like the quality all the times.

It can therefore be deduced that quality is a hindrance to adherence of the products among PLWHIV/AIDS (Table 11 and Figure 13).

Table 11 Do you like the colour?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes i am not sure not all the times	60	40.3	40.3	40.3
		1	0.7	0.7	40.9
		23	15.4	15.4	56.4
		65	43.6	43.6	100
	Total	149	100	100	

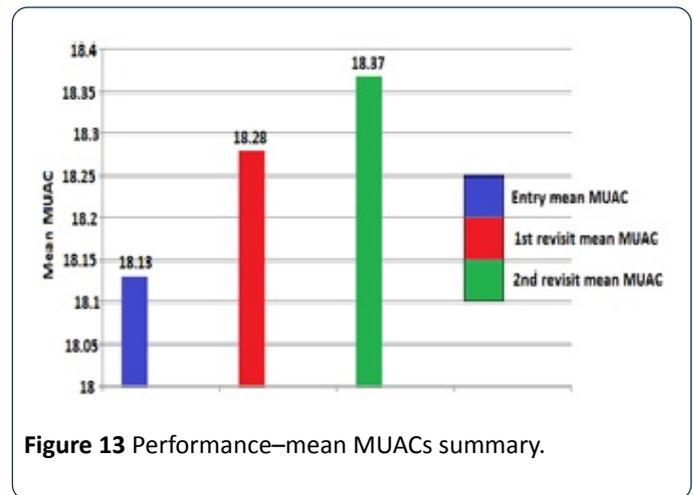


Figure 13 Performance-mean MUACs summary.

On the colour of the food 60 (40.3%) liked the colour sometimes, 1 (0.7%) was not sure 23 (15.4%) did not like the colour all the times and 65 (43.6%) liked the colour all the times. colour to some extent contributed to negative view of the program due to the view that its only PLWHA who only take that kind of food (Table 12 and Figure 14).

Table 12 Do you like packing way?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes i am not sure not all the times	60	40.3	40.3	40.3
		1	0.7	0.7	40.9
		23	15.4	15.4	56.4
		65	43.6	43.6	100
	Total	149	100	100	

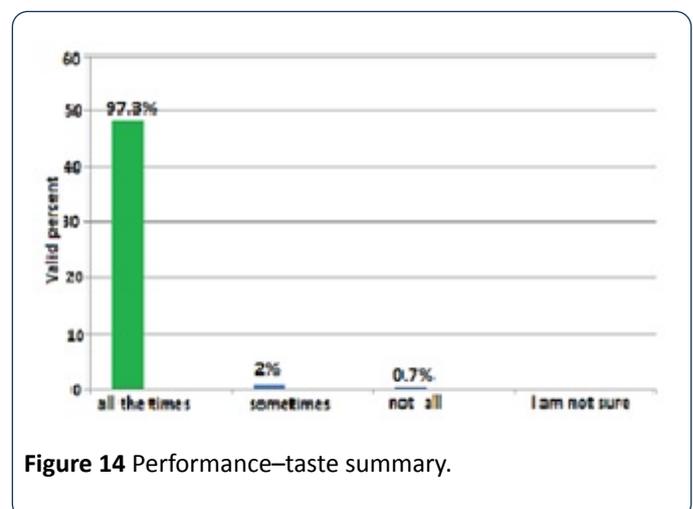


Figure 14 Performance-taste summary.

On the question whether the packing of the food was good, 26 (17.4%) agreed that the packing was okay, 7 (4.7%) were not sure if the packing was okay maybe it's because they have

not seen any packing so they cannot tell if the packing was okay, however 50 (33.6%) did not like the packing all the times and the majority of the respondents 66 (44.3%) liked the packing all the times (Table 13 and Figure 15).

Table 13 Do you enjoy consuming them?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All the times	140	94	94	94
	Sometimes	5	3.4	3.4	97.3
	not all the times	3	2	2	99.3
	I am not sure	1	0.7	0.7	100
	Total	149	100	100	

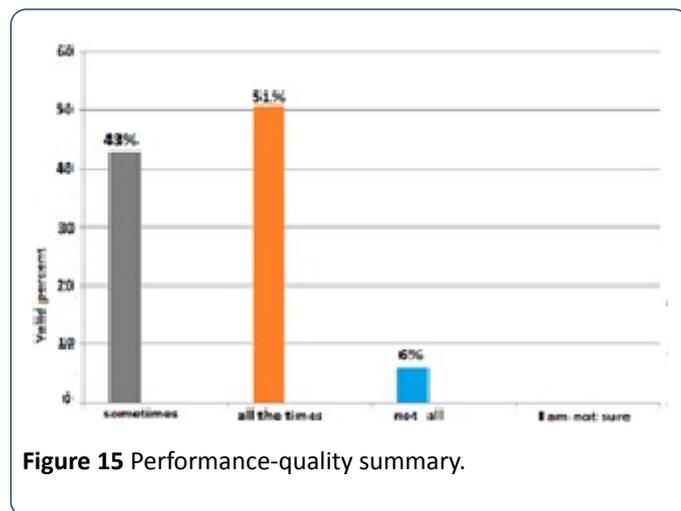


Figure 15 Performance-quality summary.

A majority of the respondents 140 (94.0%) liked the consumption of the food all the times showing how popular the program is against 5 (3.4%) sometimes, 3 (2%) not all the times and a partly 1 (0.7%) who were not sure of whether they enjoyed the consumption which may be attributed to the duration of the program or stigma (Table 14 and Figures 16 and 17).

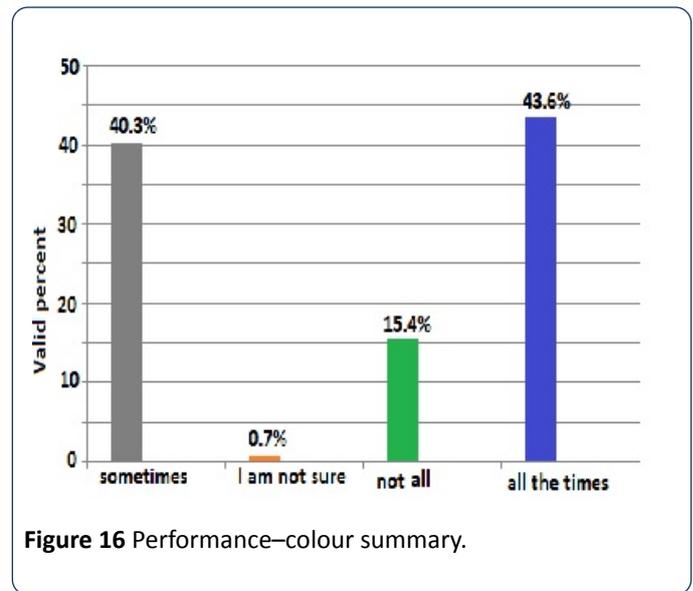


Figure 16 Performance-colour summary.

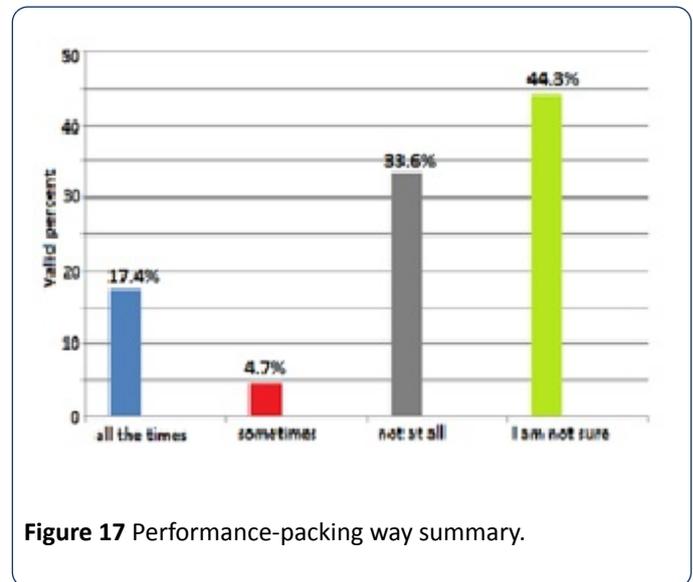


Figure 17 Performance-packing way summary.

Table 14 Do you enjoy consuming them openly?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All the times	73	49	49	49
	Sometimes	22	14.8	14.8	63.8
	not all the times	21	14.1	14.1	77.9
	I am not sure	33	22.1	22.1	100
	Total	149	100	100	

From the table above, 73 (49.00%) of the respondents enjoyed consuming the supplements openly all the times, 22 (14.80%) of the respondents said; sometimes, 21 (14.10%)

said; not all and another 33 (22.1%) said were not sure (Table 15).

Table 15 Do you like carrying them openly from hospital?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All the times	73	49	49	49
	Sometimes not all	22	14.8	14.8	63.8
	am not sure	21	14.1	14.1	77.9
		33	22.1	22.1	100
	Total	149	100	100	

From the above table stigma is also a factor that which hinders the performance of the program 69 (46.3%) could like carrying the food openly, 26 (17.4%) sometimes carried, 13 (8.7%) did not carry the food all the times and 41 (27.5%) were not sure (Figure 18).

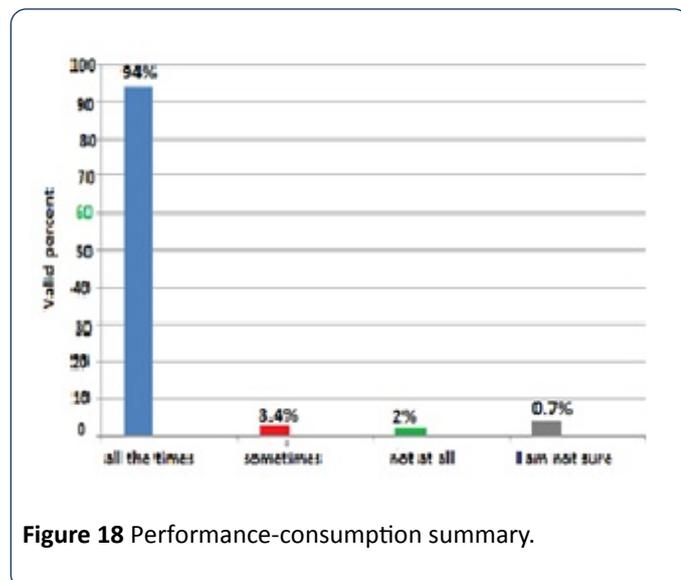


Figure 18 Performance-consumption summary.

In conclusion; The SPSS print out indicate that the strength of association between the variables is there ($r=0.055$ for entry BMI, $r=0.157$ for 1st revisit BMI and $r=0.339$ for 2nd revisit BMI), and that the correlation coefficient is significantly different from zero ($P<0.001$) for 2nd BMI and ($0<P<+1$) for entry BMI and the 1st revisit BMI.

Also, we can say that 0.3% (0.0552) of the variation in entry BMI is explained by the meals per day, 2.47% (0.1572) of the variation in the 1st revisit BMI is explained by meals per day and 11.49% (0.3392) of the variation in 2nd revisit BMI is explained by meals per day.

Summary, Conclusion and Recommendation

The main focus of the study was to find out if there are other identified factors that are associated with FBP program supplement use among the PLWHIV/AIDS, which contribute to the over stay in the FBP program, evaluate the program and also assess the attitude of the use among the PLWHIV/AIDS in Gucha sub-county.

The findings of the study will contribute some knowledge to stakeholders, policy makers on how to understand the reason why the program of FBP that is required a patient to takes 3 months only take more than a year to graduate from the program which is not required.

The study has shown factors that contribute to overstay in the program. This chapter presents summary of the study and research finding as per specific objectives of the study, conclusion and recommendation on the possible ways of addressing food by prescription program.

Discussion of the Findings

The overall purpose of the study was to evaluate foods by prescription program supplement use among people living with HIV/AIDS, in Gucha sub-county in Kisii County and come up with various proposals on how to improve this program.

The specific objectives of the study were;

- To evaluate performance of FBP program among the PLWHIV/AIDS.
- To identify factors that influences the performance of FBP program in a poor-resource set-up among PLWHIV/AIDS.
- To determine attitude of PLWHIV/AIDS towards the FBP program.

Performance of FBP program among the PLWHIV/AIDS

From the study to evaluate performance of the program, the findings showed that 104 (100%) of the female agreed, 44 (97.78%) of the male agreed that the program was of the great importance, however 2.22% (1) disagreed that it was not of help at all the time, it was not understood why he disagreed with the program as indicated on the table and the pie chart above.

From the study respondents argued why the program was of help to them, 11 (7.4%) said they had gained weight this can be attributed from the BMI that was carried on relevant groups, 80 (53.7%) gained energy and were strong, 57 (38.3%) made them adhere to ARVS and 1 (0.7%) argued that his/her appetite had improved, in general the program had a tremendous positive impact among PLWHIV/AIDS which makes the program more popular if applied regularly.

The patients MUAC also shows that there is improvement, the MUAC was the best indicator of the respondents performance compared to BMI taking into account that the BMI was selective leaving out expectant mothers and those below the age of 18. From the MUAC there is an improvement on the mid upper circumference between the first visit and the second revisit showing the impact of the program.

Factors that influences the performance of FBP program in a poor-resource set-up among PLHIV/AIDS

The following factors were found to influence the performance of the food by pre-program in a poor resource set up in Gucha.

The size of the family

The size of the family is one of the factors that influence the performance of the program this is because the program needs supplement food which will accompany the food under the program.

A large family will be strenuous for one to raise enough food for the program in a setup of poor resource like the Gucha sub county. From the findings the size of the family has an effect on the number of meals per day.

For instance a family with two members manages to get all the meals in a day this can also be witnessed with the family with 3 members. on the other hand a large family has an effect too for instance 11 members in a family will manage 1 meals same with the family with 14 members as this will contribute to them lacking enough food to back the program.

Education

From the study education was found to be one of the factor that influence performance of the FBP because the level of education also plays a key role as far as the program is concerned, from the result it shows that 10 (20%) of the respondents agreed with the program and 40 (80%) Of the respondents who have primary education did not agree that the program is of help to their health status, secondary level respondents 50 (64.93%) agreed against 27 (35.07%) who disagreed with the program on the other hand 22 (100%) of those with tertiary level agreed that the program was of benefit.

Therefore low education or rather illiteracy was a hinder to the program compared to the learned category (Figure 19).

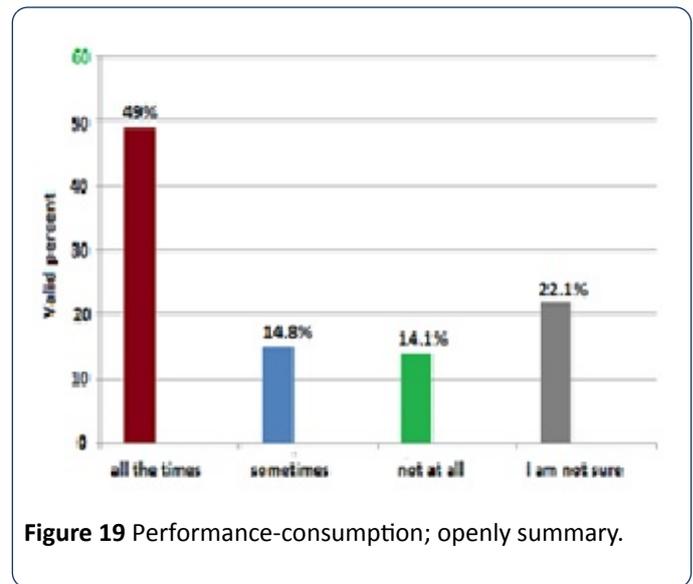


Figure 19 Performance-consumption; openly summary.

Occupation

occupation is also another social economic factor that has an effect on the program, from the study a patient who is a farmer is more likely to have either one meal or 2 meals in a day this is due to low income associated with this kind of family set up this is also the case with a conductor, a driver and masonry on the other hand an employed officer is likely to have 3 meals in a day i.e. police officer, a teacher and a health worker this is because of the income associated with this occupation. As for the student, he is likely to either have 3 meals 2 or 1 depending on the family he or she hails from. Occupation as far as the study is concerned is key to the performance of the program therefore implementers of the program should come with ways to sustain people from this resource set up.

Attitude of PLHIV/AIDS towards the FBP program

The study also looked at the attitude of PLWHIV/AIDS toward the program and are as follows.

Smell

Smell of the food was not a problem 145 (97.3%) did not have a problem with the smell of the food under FBP program 3 (2%) liked the smell whereas 1 (0.7%) did not like the smell all the times, in general smell had no impact on the program. despite the few cases the smell was widely accepted (Figure 20).

Colour

On the colour of the food 60 (40.3%) liked the colour sometimes, 1 (0.7%) was not sure 23 (15.4%) did not like the colour all the times and 65 (43.6%) liked the colour all the times. colour to some extent contributed to negative view of

the program due to the view that its only PLWHIV/AIDS who only take that kind of food.

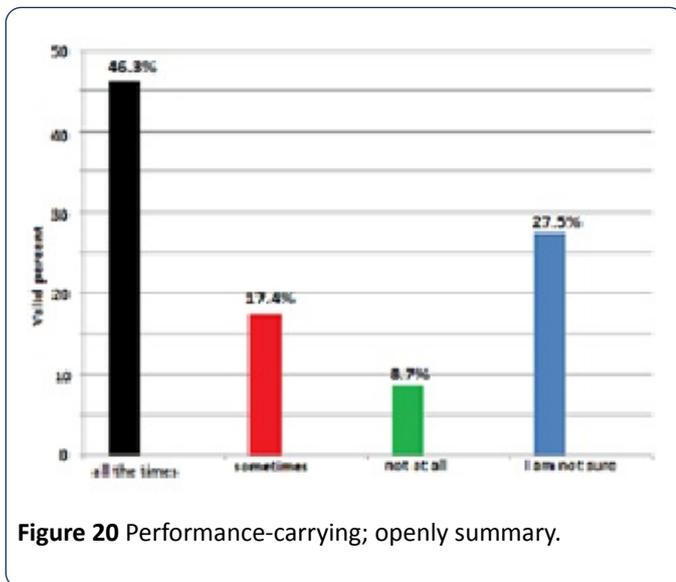


Figure 20 Performance-carrying; openly summary.

Package

On the question whether the packing of the food was good, 26 (17.4%) agreed that the packing was okay, 7 (4.7%) were not sure if the packing was okay maybe it's because they have not seen any packing so they cannot tell if the packing was okay, however 50 (33.6%) did not like the packing all the times and the majority of the respondents 66 (44.3%) liked the packing all the times.

Consumption

A majority of the respondents 140 (94.0%) liked the consumption of the food all the times showing how popular the program is against 5 (3.4%) sometimes, 3 (2%) not all the times and a partly 1 (0.7%) who were not sure of whether they enjoyed the consumption which may be attributed to the duration of the program or the awareness of the.

Stigma is also a factor that which hinders the performance of the program 69 (46.3%) could like carrying the food openly, 26 (17.4%) sometimes carried, 13 (8.7%) did not carry the food all the times and 41 (27.5%) were not sure.

Taste

Almost all the participants 145 (97.3%) liked the taste of the food 3 (2.0%) did not like the food all the times and a partly 0.7% did not like the food all the times. From the above response we can deduce that their attitude towards the program was positive and other attitude questions like smell colour package as shown in other tables.

Quality

On the quality of the food under FBP program 64 (43.0%) liked the quality sometimes, 76 (51.0%) liked the quality all the times and a partly 9 (6.0%) did not like the quality all the times. It can therefore be deduced that quality is a hindrance to adherence of the products among PLWHA.

Conclusion

The HIV/AIDS epidemic has had a devastating impact on health, nutrition, food security and overall socioeconomic development in countries that have been greatly affected by the disease. There is an urgent need for renewed focus on and use of resources for nutrition as a fundamental part of the comprehensive package of care at the country level.

Action and investment to improve the nutrition of PLWHIV/AIDS should be based on sound scientific evidence, local resources and programmatic and clinical experience with the prevention, treatment and management of the disease and related infections.

Although there are gaps in scientific knowledge, much can and should be done to improve the health nutrition and quality of care for PLWHIV/AIDS and their families and also their communities.

The HIV/AIDS burden is worse in populations where malnutrition is already endemic. As urgent priority, greater political, financial and technical support should be provided for improving dietary quality and increasing dietary intake to recommended levels.

In addition focused evidence-based nutrition interventions should be part of all national HIV/AIDS control and treatment.

Nutrition counselling, care and support interventions for PLWHIV/AIDS will vary according to nutritional status and the extent of disease progression. HIV-related infections, such as tuberculosis and diarrhoea not only have nutritional status as a significant determinant of their incidence and severity, but they also have severe nutritional consequences that commonly precipitate appetite loss and wasting. Prompt diagnosis and treatment of these conditions, including using ART treatment when indicated can contribute to improved nutrition and health.

I therefore conclude that policy makers, implementers and the ministry of Health to work in harmony to ensure that the program achieve its intended purpose and help improve the nutrition status of PLWHIV/AIDS in such a poor resource set up, from there I believe the government can achieve the goal of sustainable economy in socio economic development.

Recommendation

From the study we can deduce that the FBP program is popular in the area of study, however some aspects of the program need to be addressed in order to improve the health conditions of the PLWHIV/AIDS in Gucha Sub County.

I therefore recommend that the policy makers, the implementers and the ministry of health to ensure the following are looked into to improve the status of these people; from the study poverty is a big hindrance to the success of these program, poverty has led to poor supplement to the program because it requires one to have additional meals to complement the FBP, from the study its evident that people who are employed are the only privileged to afford

three meals in a day compared to those in informal sector who do not afford three meals in a day, therefore the ministry should look for ways of addressing large family in a household through family planning and other method of containing big families. Educational programs to reduce stigma.

Stigma has also become a hindrance to the program because some patients feel that are not part of the society.

This greatly affect the performance of the program therefore there is need to educate the general public on reason not to discriminate PLWHIV/AIDS. This is where I recommend the ministry to partner with stakeholders and other organizations to come up with robust programs to boost the program and reduce stigma; widen the scope of the study to reach many people; from the study I also witnessed people coming even from outside the study area; meaning there is still stigma in the community.

Further Research

Financial constraints limited this study to only Gucha sub county, similar studies can be done to determine the extent and contribution of the program to various sub counties with similar resource set up at national level. Other factors that contribute to poor performance which are not similar with the one discussed above should also be investigated.

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