



Effect of Civil Society Organizations on Health, Nutrition and Economic Status of People Living with HIV/ AIDS in Busia County, Kenya

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Summary

INTRODUCTION

Civil Society Organizations (CSOs) play a major role in HIV/AIDS response. Despite their massive effort to promote health care, nutrition and socio-economic empowerment to people living with the disease, documented data on the impact and value of their interventions remain scanty. Globally, people infected with HIV/AIDS by 2018 were estimated to be 37.9 millions recording 1.1 million mortalities in that year. HIV prevalence rate in Kenya was at 4.9% among the general population of ages 15-64 years [2]. In other reports, the national HIV prevalence was at 4.5% while males and females aged 15 to 24 years at 5.2% in 2018. Busia County had HIV prevalence rate of 7.7% in the same year [1].

AIM

The objective of this study was to determine the effect of CSOs interventions on health, nutrition and economic status of people living with HIV/AIDS in Busia County.

MATERIALS AND METHODOLOGY

A quasi-experimental study design was done with structured and non-structured questionnaires administered to two hundred and twenty (220) participants at baseline and end line by registered CSOs with other facilitators. All permanent male and female residents infected with HIV aged between 15 and 64 years from comprehensive patient attendance lists obtained from the Ministry of Health (MoH) facilities qualified for the study. All respondents signed informed consent forms prior to participation. Qualitative in-depth data was obtained through focus group discussions (FGDs) from key informant interviews.

RESULTS

No statistically significant differences were reported due to gender, household size and education level recorded in both sites at baseline and end line. Access to HIV/AIDS information was higher in CSOs intervention sites (89.5%) than in non - intervention (73.2%) sites at end line. Respondents in the intervention group had a significant improvement in sourcing Antiretroviral (ARVs) drugs especially from private facilities ($P < 0.05$) but no scientific difference in access to health care services between sites after CSOs intervention. Respondents receiving support for Income Generating Activities (IGA) reduced by 2.1% in the intervention sites at end line. Respectively those in non-intervention sites increased by 4.1%. The negative 6.2% Net Effect of Intervention (NEI) reported was nonetheless not statistically significant ($OR = 0.98$ (95% $CI = 0.42 - 1.5$), $p = 0.48$).



Organizations such as Reproductive Health Initiatives' impact was reported despite others' existence lacked evidence from which to establish their impact of CSOs intervention. Initiation of home based care, Chama support and income generating projects to improve on the source of economic status for PLWHA were programs that supported the government in providing quality services. However, the programs they implement some possibly a duplication of health-related services, were primarily skewed on donor interest because of dependency [10].

CONCLUSION

CSOs intervention did not have a significant effect on access to HIV/AIDS information, access to health care services, their morbidity patterns, food intake and nutritional status as well as on economic status and income generating activities. This could be due to reports that, some implementing organizations lacked adequate documentation (comprehensive database, reliable and consistent data), eventually, often failing to monitor and evaluate projects they initiated.

RECOMMENDATIONS

CSOs should work in collaboration with the government to develop sustainable interventions aimed at empowering PLWHA in improving their livelihood not only in Busia County but also across the Country. Access to ARVs from the nearest health facility will reduce suffering especially from opportunistic infections.

Keywords: Civil Society Organizations, HIV/AIDS, People Living with HIV/AIDS(PLWHA)

[*Afr. J. Health Sci.* 2020 33(2) : 22 - 34]

Introduction

Globally, people infected with HIV/AIDS by 2018 were estimated to be 37.9 million [1]. At least 1.1 million people died of AIDS in 2018, a 4% decrease since 2017. In 2018, HIV prevalence rate in Kenya was at 4.9% among the general population of ages 15-64 years [2]. In contrast, [6] reports show that the national HIV prevalence was at 4.5% with HIV prevalence among males and females aged 15 to 24 at 5.2% in 2018.

Busia County had HIV prevalence rate of 7.7% in the same year. Over 300 registered civil society organizations (CSOs) build capacity in advocating for better health care, engaged in HIV response. That included supporting the implementation of government health policies and strategies. Documented data showed that the County had HIV and AIDS prevalence of 12% among adults, twice as high as the national (6%) rate [8,19].

Role of Partners in Combating HIV/AIDS Prevalence

Kenya just like other any sub-Saharan Countries faced serious HIV/AIDS challenges prompting a global

response for combating its escalation [3]. HIV/AIDS had an impact on demographic, household, health sector, education, enterprise and workplaces as well as macroeconomic status. The magnitude of the effect prompted government authorities to develop universal strategies to fight the scourge [4,5].

However, the capacity of the public sector to deliver adequate essential services to those affected by the pandemic proved limited. This made the Civil Society Organizations (CSOs) to introduce programs that supported the government in providing quality health care, adequate nutritional balance, and suitable economic empowerment. Other CSOs have also initiated home based care activities and small-time income generating projects to improve on the source of economic status for PLWHA [9]. Majority of the CSOs mainly depended on donor support and in most cases, the programs they implement are primarily skewed on donor interest.

Previous studies had shown the effort of CSOs, Community Based Organizations (CBOs) together with formal and informal associations and groups of people living with HIV/AIDS (PLWHA) in combating the



pandemic, poverty alleviation, improving health status and foremost relieving continuous suffering especially for vulnerable groups.

Several research studies have demonstrated the effectiveness of health interventions offered by organizations such as Reproductive Health Initiatives [10]. Other studies [11,12], reported existence in lack of evidence from which to establish the impact of CSOs intervention.

In terms of service provision and coverage, organizations in Africa were found to operate on a relatively large segments of communities [13] often in extremely rural areas. However, other studies had revealed that CSOs lacked adequate documentation to support their capability and that they did not take responsibility on account of activities they provided [14]. Therefore, researchers investigating the contribution of CSO to health interventions were faced with challenges such as lack of a comprehensive database, reliable and consistent data with which to measure performance. Hence, duplication of health-related services by most implementing partners remains paramount. Most interventions done by CSOs on vulnerable persons have not been adequately documented.

Impact of HIV/AIDS

High HIV and AIDS prevalence in Busia County had affected economic growth, reduced human capital and diminished social and economic development. For instance, many children had dropped out of schools leading to low adult productivity, affecting the management of HIV/AIDS. Nutrition and HIV are strongly related to each other: any immune impairment as a result of HIV/AIDS leads to malnutrition, and malnutrition leads to immune impairment which worsens the effect of HIV contributing to more rapid progression to AIDS [14, 17].

Writers [18] reported that nutrition help to optimize the benefits of ARVs. Nutrition increased compliance with treatment regimens, both of which were essential to prolonging lives and preventing the transmission of HIV. Good nutrition increases resistance to infection and disease, improves energy, and thus makes a person generally stronger and more productive [19]. The aim of the study was to determine the effects of CSOs intervention on health, nutrition and economic status for PLWHA in Busia County.

Methodology Study Site

The study was conducted in Busia County which is the former Western Province of Kenya. The county had a population of 816,452 people out of whom 425,622 were female (53.13%) and 390,830 (47.87%) male [2009 population census]. There was approximately 300 registered CSOs [20] that played prominent roles in the fight against HIV/AIDS. The four sub-counties of Busia County selected for the study were; Samia, Teso South, Butula, and Matayos. Intervention sites were sub-locations in Matayos and Butula constituencies while Non-intervention sites were sub-locations in Samia and South Teso in Busia County.

Study Population

Two groups of study participants were drawn from two sites where CSOs intended to intervene with respect to HIV/AIDS functions, while the other two from sites with non CSO intervention. The Samia and Teso South are sites where CSOs had not intervened previously with respect to HIV/AIDS activities. Butula and Matayos were the sites where CSOs had initiated HIV and AIDS activities by the time of the study.

All permanent male and female residents infected with HIV and aged between 15 and 64 years qualified for the study. Participants for quantitative interviews were obtained from a comprehensive patient attendance lists obtained from the Ministry of Health (MoH) facilities. Civil society organizations, MoH officials, and local administration officials were key informant participants who also qualified for in-depth interviews. Participants for focus group discussion (FGDs) were selected from established and registered groups as well as associations of PLWHA.

For the quantitative study, male and female residents of Busia County aged 15 to 64 years and infected with HIV from CSOs' intervention arm and non-CSO intervention arm were included in the study. For the qualitative study, CSO staff plus health officials together with the local administration officials were included.

Members who had registered in formal groups and associations of PLWHA participated in FGD sessions. All HIV negative individuals together with



participants receiving economic support from different CSOs and from other development partners were excluded from the study.

Study Design

Quasi-experimental study design was used to compare findings from the baseline study and end line survey results. Relevant data on access to health services, nutritional status and income generation activities were collected from sites with CSOs intervention and those without CSOs intervention.

In December 2014, a baseline survey was conducted at a site where CSOs had not intervened for the previous one year and a site where they intended to initiate activities. Eight months later, an end line survey was conducted and the results from both surveys compared to determine a change as a result of CSOs intervention. The surveys were carried out on populations in the study sites and not necessarily on the same individuals at baseline and end line.

Sampling and Sample Size

A statistical formula by [21]

$$19 (n = \{Z\alpha \sqrt{[2 P (1- P)]} + Z\beta \sqrt{[PE (1-PE) + PC (1-PC)]} \}^2 / \delta^2)$$

was used to calculate sample size, *n*.

Where:

PC = the proportion of individuals not accessing health care services from CSOs interventions at baseline, set at 80%

PE = the proportion of individuals not benefiting from income generating activities from CSOs 10 months after intervention (end line), set at 50%

S = the difference between PE and PC

p = (PE + PC)/2

Zα = 1.96 at 95% Confidence Interval (CI)

Zβ = 0.84 at 80% power

n = $\{0.84 \sqrt{[2 \cdot 0.6 (1- 0.6)]} + 0.84 \sqrt{[0.5 (1-0.5) + 0.8 (1-0.8)]} \}^2 / \delta^2$ n
= 220

Sample size (*n*) was determined to be 220 participants. It was also adjusted by a factor of 20% to cover for non respondents. Therefore, a minimum sample size of 110 individuals per site (intervention and non-intervention) was targeted.

For quantitative data, a comprehensive patient attendance list of HIV infected cases from selected MoH facilities was used to identify the eligible participants. The interviews were conducted in public health facilities.

Non-probability sampling was used to pick key informant participants. Heads of departments / institutions were targeted for interview sessions from public health care facilities, CSOs offices and from the local administration (chiefs, sub-chiefs and village elders). Interview check guide was used on one officer found in a duty station / section.

Qualitative interviews took place at respective participant's workstations. All respondents were asked to consent on the informed consent form prior to participating in the study.

Civil Society Organizations required for the study were selected from a list of registered CSOs that offered HIV related activities in Busia County. The original list was obtained from the National Non-Governmental Organization (NGOs) board offices in Nairobi. Twelve participants were targeted for each focus group discussion that included PLWHA selected randomly from an established list of registered associations /groups for PLWHA identified from CSOs as well as non CSOs intervention sites. Each FGDs cluster had participants selected and classified according to age, gender, and status. Four FGDs sessions were done at baseline and a similar number done at end line.

Data Collection

Research assistants were recruited from the local community and trained adequately to assist in data collection and the management of data. The research assistants included form four leavers and college graduates, nurses, clinical officers along with nutritionists. Among other data collection duties assigned to them were to assist in carrying out a physical examination and anthropometry procedures to determine BMI for PLWHA and ensure that findings were recorded appropriately.



Data Management and Analysis

All questionnaires were cross-checked and verified to ensure accuracy and completion by the principal investigators. Pre-coding was done in boxes already inserted against each question. Microsoft Access software was used for data entry after which cleaning was performed by *Epi-info software*.

Data for HIV infected individuals was gathered then compared between two groups residing in CSOs intervention population with similar groups of individuals in non CSOs intervention population. Thereafter, baseline findings were compared with the end line results. Statistical Package for Social Scientists (SPSS Version 17) was used to analyse quantitative data. Frequency distributions and percentages were computed to enable univariate data presentation. In bivariate computations, the Chi-square test computed to test for categorical variables association. In addition, the Odds Ratio was computed for two by two tables.

Net Effect of Intervention (NEI) analysis was used to determine the impact of interventions at a 95% confidence level. Qualitative data was analysed using NVivo (QSR International Pty Ltd) qualitative analysis. Text, audio, and video recordings including the notes taken were transcribed verbatim and data categorized into various themes. Quotes were used to illustrate the perspectives of respondents relating to the different themes.

RESULTS

Findings from Quantitative Data Socio-Demographic Characteristics

Two hundred and fifty-seven (257) participants (50.6% in the intervention sites and 49.4% in non-intervention sites) were interviewed at baseline. A total of 281 participants (50.9% in intervention sites and 49.1% in non-intervention sites) were interviewed at the end line. There was no statistically significant difference attributed to gender, household size, and education level observed in intervention and non-intervention sites at baseline and end line. Majority of the respondents (50%, 42.5% Vs 49.6%, and 39.9%) in

intervention and non-intervention sites at baseline and end line respectively, indicated to have attained the primary level of education. Those who reported having at least attained the secondary level of education were indeed also fewer 18.5% in intervention at baseline 15% at end line Verses 19.6%, in non-intervention sites at baseline and 20.3% at end line, respectively.

The employment status among respondents in both the intervention and non-intervention sites at baseline and end line was observed to be statistically significant. Eventually, a significant difference in employment status was reported in both sites at baseline and end line between the intervention and non-intervention sites.

The number of respondents who were formally employed were significantly higher in the non-intervention sites ($P = 0.03$) at baseline. A similar trend was reported at end line, with significantly more respondents in non-intervention sites than in intervention sites being formally employed ($P < 0.01$).

The number of self-employed respondents did not vary significantly at baseline ($p=0.83$). About 11.7% more respondents in non-intervention site were self-employed at the end line ($p<0.01$) (*Table 1*) next.



Table 1: Socio - Demographic Characteristics

Demographics	Baseline, <i>n</i> (%)		P-value	End-line, <i>n</i> (%)		P- value
	Intervention, N=130	Non-Intervention, N=127		Intervention, N=143	Non-Intervention, N=138	
Male	43 (33.1)	35 (27.6)	0.34	64 (44.8)	60 (43.5)	0.83
Female	87 (66.9)	92 (72.4)	0.34	79 (55.2)	78 (56.5)	0.83
Household Size						
≤3	20 (15.4)	26 (20.5)	0.43	29 (20.3)	23 (16.7)	0.72
4	27 (20.7)	28 (22.1)	0.57	31 (21.7)	35 (25.4)	0.34
5	30 (23.1)	22 (17.3)	0.16	29 (20.3)	28 (20.3)	0.61
6	20 (15.4)	20 (15.7)	0.56	15 (10.5)	24 (17.4)	0.10
7	13 (10.0)	12 (9.4)	0.69	14 (9.8)	14 (10.1)	0.62
≥8	20 (15.4)	19 (15.0)	0.47	25 (17.5)	14 (10.1)	0.42
Highest Education						
No Formal Education	18 (13.8)	20 (15.7)	0.45	18 (12.6)	19 (13.8)	0.44
Primary	65 (50.0)	54 (42.5)	0.44	71 (49.6)	55 (39.9)	0.41
Secondary	24 (18.5)	19 (15.0)	0.45	28 (19.6)	28 (20.3)	0.89
Tertiary	15 (11.5)	16 (12.6)	0.93	13 (9.1)	20 (14.4)	0.44
University	8 (6.2)	18 (14.2)	0.18	13 (9.1)	16 (11.6)	0.75
Employment Status						
Not Employed	25 (19.2)	23 (18.1)	0.84	36 (25.2)	12 (8.7)	0.25
Formally Employed	7 (5.4)	20 (15.7)	0.03	17 (11.9)	23 (16.7)	0.01
Self Employed	98 (75.4)	84 (66.1)	0.83	90 (62.9)	103 (74.6)	0.01

Access to HIV and AIDS Information

Access to HIV and AIDS information was higher in intervention sites (89.5%) in comparison to the non-intervention (73.2%) sites at the end line. Despite the 20.6% Net Effect of Intervention (NEI) in intervention sites was not statistically significant (OR = 1.3 (95% CI = 1.0- 1.9), *p* = 0.16). The main source of HIV and AIDS information was from the

Ministry of Health in the intervention (62.3%) and non-intervention sites (57.5%) at baseline. About 7.3% (NEI) more subjects in intervention sites accessed HIV/AIDS information from the Ministry of Health (*P*=0.55) at the end line. Approximately 6.1% more respondents in intervention sites sought information from key leaders in PLWHA groups and the local administration at end line (*P*=0.07). Access to information from the private sector remained unchanged with the 0.1% NEI reported in intervention sites being insignificant (*P*=0.96).

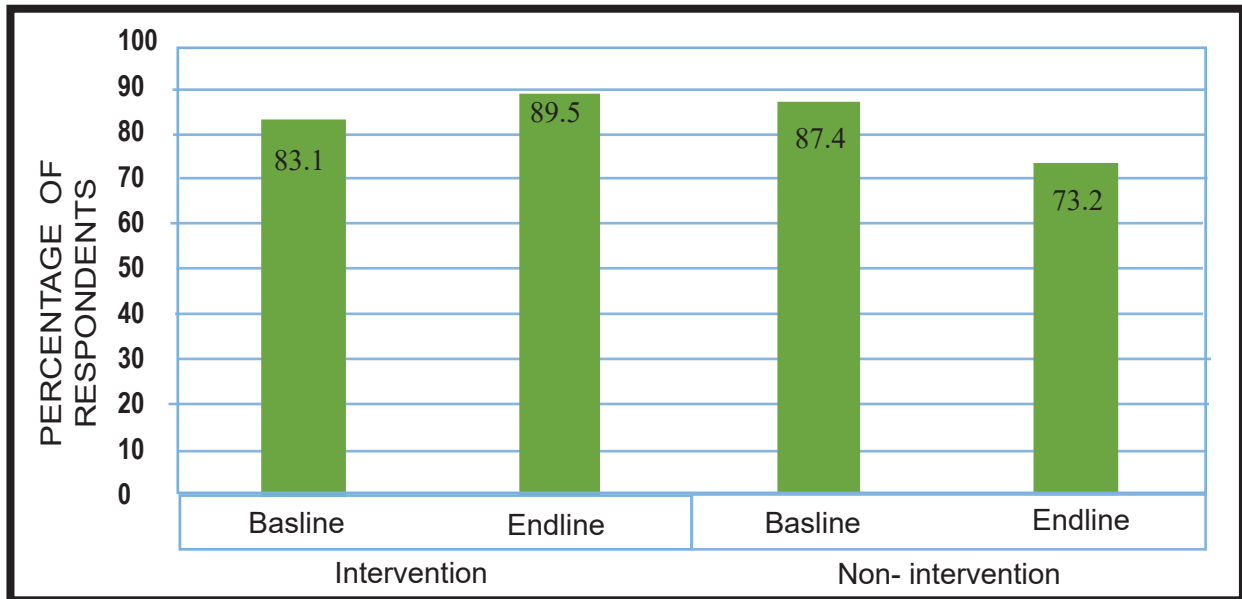


Figure 1: Access to HIV/AIDS Information

Awareness of HIV Risk Factors

There was no scientific change in awareness of HIV risk factors after the intervention of CSOs. However, knowledge of contact with infected body fluids as a risk factor for HIV increased marginally (2.2%) in the intervention sites, despite 1.6% drop in awareness was reported in non-intervention sites.

Awareness of childbirth and unprotected sex as risk factors for HIV increased by 1.3% and 1.3% (NEI) in intervention sites. Respectively 0.3% more respondents talked of breastfeeding at end-line (P=0.98). Overall, awareness of risk factors for HIV was modest in both sites.

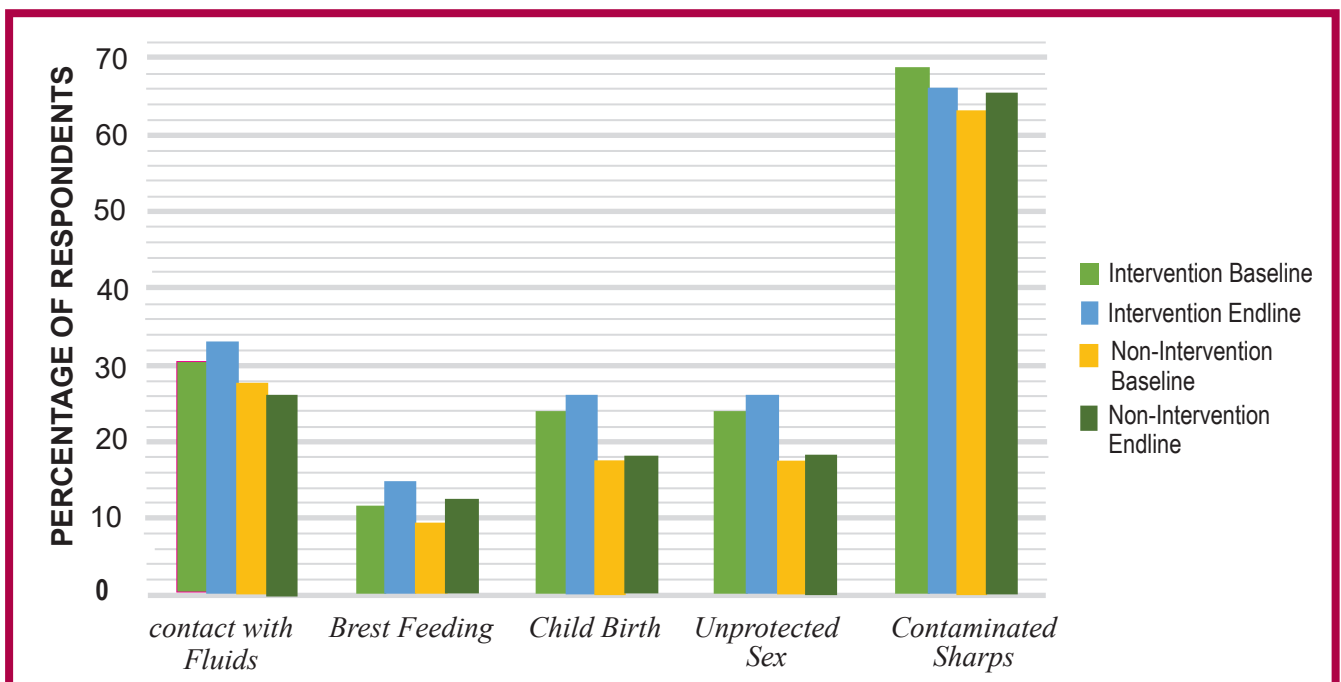


Figure 2: Access to HIV Risk Factors

Morbidity Patterns

At end-line, the prevalence of skin rash and periodontal diseases reduced in intervention sites with 7.7% and 5.9% fewer respondents presented with the diseases in comparison to non-intervention sites. The prevalence of opportunistic infections such as candidiasis also dropped marginally at end-line in intervention sites, with 0.7% less cases reported at end line in comparison to the non-intervention sites.

There was a higher overall decrease in TB prevalence among the respondents in the non-intervention site, in comparison to those in the intervention site from baseline to end line.

Incidentally, the NEI (12.4%) was not significant at the end line. Overall, the differences in change of the prevalence of clinical signs and symptoms were not statistically significant.

Access to Health Care Services

Government facilities were the main provider of voluntary counselling and testing services both in intervention (59.2%) and non-intervention sites (56.7%) at baseline and end line. In intervention sites, respondents tested in government hospitals and CSOs facilities increased by 13.4% (P=0.24) and 2.3% respectively (P=0.48) NEI, while those attending private clinics dropped by 12.2% (P = 0.17).

The government was the most common source of ARVs in the intervention sites (42.0%) at baseline. However, a 9.9% reduction in the number of respondents obtaining ARV from government facilities was reported at the end line, compared to the 8.5% increase reported in non-intervention sites.

Respondents sourcing ARVs from private facilities increased significantly in the non-intervention sites at end line in comparison to those in intervention facilities (P<0.05). (**Figure 1**)

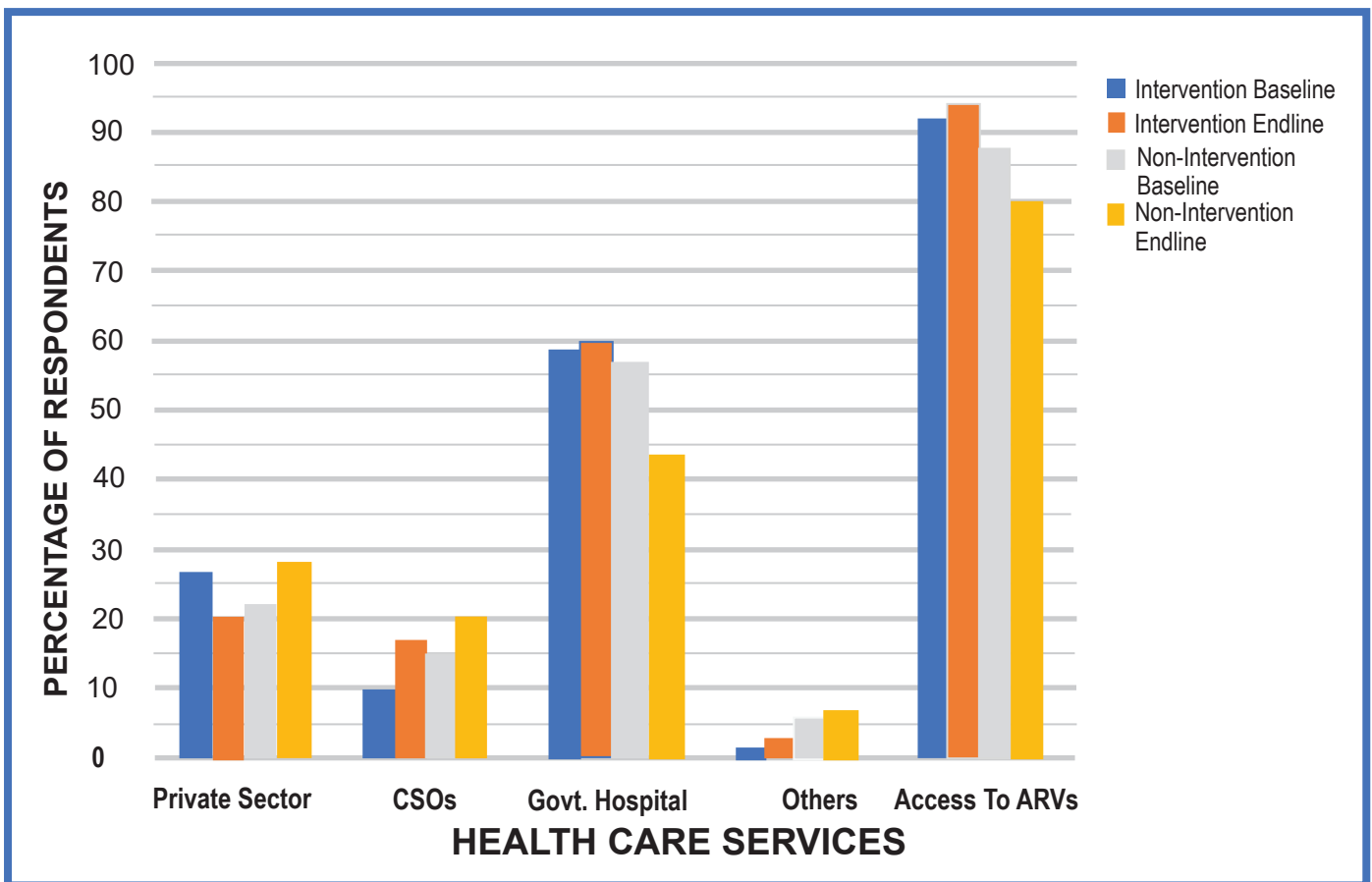


Figure 3: Access to Health Care Services



Body Mass Index (BMI) Results

More respondents (4.8%) in intervention sites compared to non-intervention sites at the end line were malnourished ($BMI \leq 18.4$). Additionally, approximately 3.6% respondents in intervention sites were obese. While an 8.3% net reduction in the number of respondents with normal weight was reported in intervention sites at end line. However, the NEI changes within respondents in various BMI categories among those in the intervention versus (Vs) those in non-intervention reported at the end line were not statistically significant.

Food Intake of Respondents

About 30.8% and 37.0%, and 31.5% versus 37.0% of respondents could not take breakfast in the morning in intervention and non-intervention sites at baseline and end line respectively. Around 24.6% drunk porridge, while 5.4% and 3.1% ate maize and wheat products in the intervention sites. A similar trend was reported at end line with 31.5% and 34.8% of respondents not having breakfast at intervention and non-intervention sites. *Ugali* or rice were the most common foods consumed for lunch (34.6%) in intervention sites and (37.0%) in non-intervention sites. The same food was consumed for supper, whereby about 36.2% and 34.6% at baseline and 35.7% versus 37.0% at end line in intervention and non-intervention sites respectively confirmed to have *Ugali* or rice. No significant difference in food intake in intervention sites in comparison to non-intervention sites at the end line was reported.

Meal Frequency Per Day

The study reported an improvement of 1.4% and 3.0% respondents in intervention sites at the end line, consumed one or three meals per day. Respectively, the number of respondents eating two meals per day reduced by 4.4% net ($P=0.79$) in the intervention sites. Civil society organizations' (CSOs) interventions did not influence meal frequency per day in their sites compared to non-intervention sites.

Economic and Income Generating Activities

The number of respondents that were receiving support for Income Generating Activities (IGAs) reduced by 2.1% in the intervention sites at the end line,

but 4.1% increase was reported in the non-intervention sites at the end line. The negative 6.2% NEI reported was, however, not significant ($OR=0.98$ (95% $CI=0.42-1.5$), $P=0.48$). *Chama* support was the most common type of economic support in both intervention (66.7%) and non-intervention (61.5%) sites at baseline.

The impact of Civil Society organizations on economic and income generating activities was appreciated by most respondents. Participants during FGD stated;

“CSOs always bring happiness to most of the members, but when they wind up their projects, people start to see poverty knocking”.
(Male, FGD Participant, Non-intervention site...).

When probed about CSOs benefits, respondents narrated they had indeed gained from regular round table discussions. In addition, they had also gained economically from the formation of formal groups;

“Frequent discussions with CSOs has greatly improved on our thinking and that we are knowledgeable to some extent”.
(Youth participants from FGDs, intervention site...).

The formation of these groups extended the collaboration between PLWHA and other members of the society to the extent they felt less stigmatized;

“With the help of CSOs, we were able to form and register PLWHA groups and Associations”
(An FGD adult participant”).

“As active members of PLWHA groups, we have introduced and shared the idea of schemes (Merry go Round, Chama, Schemes and established SACCOs) to most of our members for the purpose of generating some income to support our family needs,
(Female Youth, FGD participant, intervention site).

Findings from Qualitative Data Access to HIV Information

During discussions, most respondents confirmed that they had adequate access to HIV and AIDS information with most individuals finding the information provided



quite helpful. At the end line, access to HIV and AIDS information was recorded higher in intervention sites in comparison to the non-intervention sites. The data revealed that, civil society organizations engaged influential leaders (Chiefs, Asst.-chiefs, and village elders) within the community in the dissemination of that information because of their influence in the community as reported by a study participant below;

"Ignoring influential leaders in the community as it is currently, will only work against this noble project",
(Male FGD Participant, Non-intervention site...)

Awareness of HIV/AIDS

The level of HIV/AIDS awareness was noted to have greatly been enhanced. Several participants were very much aware of the meaning of HIV/AIDS, the spread, and the prevention measures. Participants confessed to receiving a lot of information on the care and prevention of HIV/AIDS during subsequent meetings with CSOs. Alternatively, key informants from the CSO study site reported that they were offering health education on a regular basis to PLWHA in a subsequent gathering. This created an atmosphere for better understanding as well as acceptance to individual HIV status.

"We visit community groups and provide them with health education information during a round table sitting and discussions".

(Female Nursing staff from the Comprehensive Care Centre in a public Health facility....)

Access to Health Care Services

During discussions, some key informants (MoH, Local administration, Village elders and PLWHA) observed that, access to health care and HIV and AIDS services had improved over the years. Most of them narrated how they could not in the past years, access ARV drugs from the local rural health facilities.

Most members appreciated CSOs contribution in support of enhancing health care services. Others acknowledged expressing to have benefited from their interventions especially through the formation on associations and community groups.

"Indeed, we appreciate the support CSO/NGOs

offer, especially on health matters. The benefits have immensely been recognized by some of us,
(Female, FGD participant, intervention site....).

"The government still remains the best health service provider as their services are usually incessant".
(Female FGD Participant, Non-intervention site...).

Nutrition and Food Intake

Apart from nutritional education and counselling services offered, there had been limited support from CSOs on nutrition. All respondents observed that nutritional support was virtually non-existent and that they ate whatever they come across without considering the nutritional value.

Poor uptake of nutritious diet affected antiretroviral therapy (ART) management for PLWHA. Participants collectively alleged that they experienced general weakness of the entire body, believed to be as a result of improper feeding habits. Youths and adult groups revealed qualitatively that they consumed unhealthy foods. They hardly had any planning measures in place for what should be eaten at a mealtime. In fact, one participant in FGD said:

"Planning on foods to eat is an act done by people who reside in urban cities (Nairobi) Most of us live on one meal per day, it becomes difficult to take drugs on an empty stomach, we react badly leading to recurrent diarrhoea, giving tangible reason for why we sometimes skip taking ARV drugs...."
(Male, FGD Participant, Non-intervention site...).

Several participants acknowledged the Ministry of Agriculture and CSOs for giving them some form of support. But claimed the support was inconsistently offered with no follow-up and documentation to determine change.

For example, the Ministry of Agriculture irregularly provided farm seeds (Cassava), but none of the officers followed up to know if indeed the seeds had been planted or not. Members expressed;

"Usually, supporting CSOs that provide us with supplementary foods do not follow up the initiated projects to assess or know the progress of their efforts."
(Female, FGD Participant, Non-intervention site...).



Discussion

The study interviewed more females than males in the intervention site and non-intervention site both at baseline and end line. This should be expected as women tend to have better health seeking practices than men [8]. The highest proportion of respondents had a household size of 4 to 5 members. It was common for families to have a household size of ≥ 4 members especially in African settings [21].

The education level for majority of the respondents was low and was associated with poor employment and low economic status. Similar observations were made in another study which reported that most communities served by CSOs had limited employment skills resulting from low recorded education level [13].

The CSOs intervention did not result in any statistically significant difference in the rate of awareness of risk factors for HIV/AIDS. Awareness was noted to be high among both the intervention and non-intervention groups. That was in line with the observation that, the public health facilities under the Ministry of Health were the main source of information on HIV/AIDS. The rate of awareness on the use of ARVs in AIDS management was also high. The high rate utilization of HIV management services linked with massive advocacy as well as the involvement of PLWHA in advocating for adherence. The high rate of awareness of HIV/AIDS risk factors may also have been contributed to by the advocacy work of CSO that had worked in Busia County earlier [2].

The respondents in the intervention group had a significant improvement in sourcing ARVs from private facilities in comparison to those in non-intervention facilities. This may be a reflection, of the fact that, other facilities not run by the Ministry of Health also offered care and support to people living with HIV/AIDS. Particularly, faith-based organizations played an important part in offering such services. Busia based CSOs (AMPATH AND APHIA PLUS) constantly supplied ARV drugs to public health facilities. The move has attributed to significant improvement in accessing drugs for PLWHA. A report by a University College in London, Department of Epidemiology and Public Health showed 60% of NGOs certainly had the capacity to deliver ARVs in rural settings [12].

The increase in access to ARVs for PLWHA was commendable as it was linked to improving health status for those affected with the disease [11, 12]. Most respondents appreciated the effort made by CSOs in ensuring ARV drugs were easily accessible. Civil society organizations have played an important role in scaling up Antiretroviral therapy (ART), although they have not been able to reach each segment of Busia Country. They equally appreciated CSOs contribution towards disseminating information about HIV and AIDS.

Positive effect of CSOs interventions on some opportunistic infections' prevalence reduced. These included herpes zoster and candidiasis. Morbidity patterns also showed a reduction on infections such as skin rash, hair loss, fungal infection, and tuberculosis. Food and Nutrition Technical Assistant cited opportunistic infections as a major problem among PLWHA which had been activated by improper food intake [19].

The reduced prevalence of some opportunistic infections might be associated with the high access to public health facilities and excellent functional advocacy measures applied by various CSOs. The reduction may have also been contributed by a number of achievements: additional services such as counselling, promoting nutritious diet, provision for prophylaxis drugs among other simple medicines usually offered on frequent basis by both the government facilities and the CSOs.

No statistically significant difference in the food intake patterns among the intervention vs. the non-intervention respondents. Overall, respondents consumed diets high in carbohydrate but lacking in fruits and low in animal protein sources. Such a diet is likely to be deficient in some micronutrients such as iron, as the iron from plant sources has poor absorption and bioavailability. Many studies had observed that, good nutrition practices contribute to slowing the progression of HIV/AIDS [17, 21, and 23].

CSOs intervention did not result into scientific difference in the type of food consumed, especially for PLWHA. Respondents in discussion sessions appealed for nutritional support from both the government and development partners to enable them to continue ARV uptake and to improve on their general health conditions.

Most of the respondents were engaged in self-employment activities such as small-scale farming and



small-scale businesses mainly; *Boda Boda* (bicycle or motor bicycle taxi services) for the youths. While the women including young girls on the other hand, got involved in trading food commodities like sweet potatoes, cassava, fish, ground nuts, sugar cane, bananas and green vegetables.

From the quantitative data, there was no statistically significant difference in the economic activities between the intervention and non-intervention respondents. However, several participants acknowledged to have greatly benefited from the training sessions offered by CSOs. A minimal percentage of respondents reported improvement in their living conditions, improved housing and access to new motorbikes. Research on Accountability in Practice: Mechanisms for NGOs supported the findings. The document affirmed that from the subsidy, community dialogue had improved the livelihood for most PLWHA [24].

Conclusion

CSOs intervention did not have a significant effect on access to HIV and AIDS information, access to health care services, morbidity patterns of PLWHA, food intake, and nutritional status as well as economic and income generating activities. It was, however, noted that access to HIV/AIDS information was higher in intervention sites in comparison to the non-intervention sites at the end line.

Respondents sourcing ARVs from private facilities increased significantly in the non-intervention sites at end line in comparison to those in intervention facilities. The number of respondents receiving support for IGAs reduced slightly in the intervention sites at the end line, while in the non-intervention sites the number slightly increased at the end line.

Recommendations

1. It would be essential to engage development partners as well as the political will to spread the significance for education as this would decrease poverty levels through acquisition of formal employment geared towards empowerment.
2. Civil society organizations should be encouraged to continue supporting people living with HIV/

AIDS to access antiretroviral drugs from the nearest health facility and create impact on income generating activities in order to reduce suffering especially from opportunistic infections.

3. It would be imperative to engage various partners in implementation for programs that will enhance the nutritional status of people living with HIV/AIDS (PLWHA); integrate programs involving local leaders and communities to support agricultural interventions as well as food distribution as a safety net to vulnerable households. Equally provide training to improve skills on agriculture and food security.
4. Civil society organizations should work in collaboration with the government to develop sustainable interventions aimed at empowering PLWHA in improving their livelihood not only in Busia County but also across the Country.
5. Regular assessment, proper reporting and dissemination of the outputs should be encouraged to enhance continuity of implemented projects by all participating players.
6. More studies of this nature ought to be encouraged in order to have an impact of civil society organizations intervention not only on PLWHA but also on the entire community.
7. The government need put measures to improve equity in gender in order to reduce existing disparities among PLWHA. This will be a goal especially towards poverty reduction since the success for HIV/AIDS prevention lies upon multi sectorial approach.

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