



Factors Influencing Uptake of HIV/AIDS Care and Support Services among HIV Infected Adults in Baringo County, Kenya

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Abstract

BACKGROUND

To attain long-term health, people living with HIV/AIDS need effective, trustworthy, prompt, and consistent access to HIV care and support services. However, recent reports in Baringo County, show that many patients under care are defaulting to treatment for unknown reasons. This study aimed to determine the factors influencing the uptake and retention of HIV care services.

MATERIALS AND METHODS

The study was conducted at comprehensive care centres in Baringo County. An analytic cross-sectional study design was used to examine the factors influencing the uptake of HIV/AIDS care and support services in HIV-infected adults. A total of 580 study participants were enrolled into the study. We used an interviewer-administered questionnaire to collect the data. Quantitative data was analyzed in SPSS version 27. Inferential statistics (Univariate and bivariate) analyses were conducted at a $p < 0.05$ significance level. Qualitative data was transcribed and analyzed thematically.

RESULTS

The age of participants ranged from 18 to 84 years, with a Mean age \pm SD (Range) in years of 41.4 ± 15.0 . The Uptake level was 50.7%. Factors enhancing uptake included higher than primary level education (OR:1.7), CD4 $<$ 500/ μ L ($p < 0.03$), partner or spouse support (39.1%), incentives (45.7%), and lower monthly income less than Ksh 10,000 ($p < 0.0001$). Factors that negatively impacted uptake were lack of knowledge of available services ($p < 0.001$), a long distance from treatment facilities ($p < 0.0001$), high travelling costs (72.3%), feeling ashamed of attending clinic ($p < 0.0001$), residing in rural areas ($p < 0.001$), and provider not being available, especially on weekends and holidays (43.7%).

CONCLUSIONS

The data presented here suggests that education above the primary level, low CD4 counts, a supportive spouse, incentives, and lower monthly income enhance the uptake of HIV care services. A lack of knowledge about available services, long distances from treatment facilities, high travel costs, the stigma of clinic attendance, residing in rural areas, and the unavailability of treatment providers reduced the uptake of HIV care and support services in Baringo County.

Keywords: Uptake, HIV/AIDS Care, Support Services, Baringo County

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Introduction

The majority of deaths from HIV/AIDS occur in settings with little resources, making it a

priority concern for global public health [1]. Besides, the adoption of HIV care and support services is still low despite widespread attempts



to save lives [2]. Due to limited access and poor-quality HIV services, migrant communities in sub-Saharan Africa have the greatest prevalence of the virus [3].

While inconsistent uptake of HIV medication and care results in worse health outcomes and increased mortality, optimal uptake is correlated with better health outcomes [4-6]. Unfortunately, in settings with low resources, it can be difficult for PLWHA to attend clinic appointments, take medications, and get the care they need to live longer, healthy lives [7]. Hence, statistics have shown a growing number of HIV-positive people who stop receiving care and therapy despite increased enrollment in care programs. Most of these clients emerge again when they have advanced HIV disease, die, transfer or are lost to follow-up [8].

Interestingly, HIV/AIDS is the leading cause of morbidity in Baringo County, with more than 40% of hospital beds being occupied by HIV/AIDS patients [9]. In a recent study at Baringo County Hospital [10], 76.9% of the patients had a history of disengagement and re-engagement, with 33% lost to follow-up. However, the reasons for disengagement and low uptake in this area remain largely unknown. Likewise, studies in Ethiopia and Eastern Uganda show a high prevalence of HIV/AIDS ART nonadherence, with factors like employment, food insecurity, malnutrition, and infections contributing to non-adherence [11, 12]. These studies demonstrate that low uptake of HIV care

Materials and Methods

Study area

The study was conducted between July 2022 and November 2022 in Baringo County, Kenya, with a population of 679,000 and an HIV prevalence of 1.6% (2.3% among women and 1.4% among men) [15].

Study design and population

This study used a cross-sectional analytic research design to assess the factors affecting the uptake of HIV/AIDS care and support services.

and drop-outs from treatment appear to accelerate disease progression for individual clients. Besides, HIV patients face economic, geographic, and social barriers to accessing services, including cattle rustling and banditry witnessed in Baringo County [9]. Socially marginalized areas and diverse cultural beliefs also impact health perceptions of what entails treatment and care for these clients [13]. However, current data reveal insufficient information about the care and behaviours related to HIV services uptake and the needs of HIV-infected older people, especially in low-resourced areas where care retention is a concern.

Given the above gaps, the degree of HIV care and treatment interruption tends to be significantly higher in Baringo County, hence this study examined the level and factors influencing uptake of care and support services for PLWHA. It is imperative to comprehensively understand the factors and their underlying mechanism that impede the uptake of HIV care to contextualize interventions to retain HIV patients in care and to contribute to the Nation's second and third UNAIDS treatment targets (95-95-95) by 2025 [14]. In addition, the findings of this study will inform stakeholders on how to improve the quality and coverage of HIV/AIDS care and support services in low-resource settings, especially at this timeframe when measures to control the COVID-19 pandemic threaten to disrupt HIV care and treatment.

The study targeted all HIV-positive adults diagnosed in Baringo County and enrolled in Comprehensive Care Centers. Fisher *et al.*'s (1998) formula was used to determine the quantitative sample size of 580 clients for the study.

Eligibility criteria

The study included all adults [>15 years] who tested positive for HIV, must have been residents for at least 6 months in Baringo County and enrolled in comprehensive care centres.



Sampling techniques

Stratified sampling was used whereby the County was divided into 6 existing sub-counties, with 4 sub-counties purposefully selected for the study. Tiaty sub-county was excluded from the study due to ongoing security operations and Baringo South clients, considered a homogeneous sample. Besides, a pilot study was conducted in the Mogotio sub-county, which was also excluded. Participants were drawn from each selected sub-county, from the health facilities with a HIV Comprehensive Care Clinic proportionate to the study sample of 580 enrollees. A list of all Persons living with HIV/AIDS (PLWHA) registered for treatment at each selected HIV comprehensive Care clinic was used as the sampling frame. Systematic random sampling was used to select respondents from the pool until 580 were picked.

Data collection instrument

The study utilized a semi-structured interviewer-administered questionnaire that was researcher-developed with items from similar studies and literature review. The study variables included socio-demographic characteristics and factors influencing uptake or non-uptake of services. A 4-point Likert scale was used in some of the responses.

Reliability of the research instrument

The study used a test-retest approach to assess the reliability of the questionnaire. It was administered to 58 HIV-infected clients, representing a 10% sample, and repeated within two weeks to the same clients. The test-retest scores were analyzed using Pearson's product-moment correlation (r) and the coefficient of statistics reliability. A Pearson correlation between the original and re-test scores was between 0.75 to 0.89 ($p < 0.001$) indicating the instrument's high level of reliability [16].

Data collection procedure

Data collectors were six research assistants, experienced in the care of HIV-positive clients, who were trained in the study

purpose, data collection process and the questionnaires. The primary investigators verified on-site the accuracy of the data.

Data analysis

Quantitative data was coded, cleaned, and entered into Windows Excel. Statistical analysis was done in the SPSS statistical package (SPSS V.27). The frequency, mean, standard deviation, and descriptive statistics were generated. Inferential statistics, (Univariate and bivariate analysis) were used to compare categorical independent variables with primary outcomes (Uptake of HIV care and supportive services). Statistical significance was set at $P < 0.05$. Secondly, the qualitative data was analyzed by researchers across a range of novel concepts (themes) to support user perceptions of HIV care and services uptake.

Ethical considerations

The study was approved by the Masinde Muliro University Research Ethics Board [approval No: MMUST/IERC/063/2022], NACOSTI [License No: NACOSTI/P/22/18099] and Baringo County Government Department of Health [REF: BCG/HS/RES/01/VOL.1/07]. Informed consent was obtained from participants with all information kept confidential.

Results

Social demographic characteristics of participants

A total of 519 out of a sample size of 580 took part in the study giving a response rate of 89.5%. As shown in Table 1, the mean age was 41.4 with an SD of ± 15.0 . Most of the participants were married (59.3%) and had attained secondary education (44.5%).

Socio-economic characteristics of study participants

Most participants were from rural areas (40.1%), the Tugen tribe (53.0%) and engaged in farming (27.6%), business (24.7%) and supporting 4-5 people, with an average monthly income of Ksh. 3,001 – 9,999.



Table 1:
Socio-demographic characteristics of HIV/AIDS participants

Variable	Categories	n	%
Gender	Male	240	46.2
	Female	279	53.8
Age group in years	15 - 24	47	9.1
	25 - 34	124	23.9
	35 - 44	162	31.2
	45 - 54	98	18.9
	≥ 55	88	17.0
Mean age ± SD (Range) in years		41.4 ± 13.1 (15.0 – 84.0)	
Marital status	Married	308	59.3
	Single	97	18.7
	Divorced	47	9.1
	Widow	67	12.9
Level of education	None [No formal education]	55	10.6
	Primary	109	21.0
	Secondary	231	44.5
	College/University	124	23.9
Religion	Atheist [Non-believers]	64	12.3
	Muslim	43	8.39
	Catholic	197	38.0
	Protestant	215	41.4

Table 2:
Retention to care

Variable	Categories	n	%
How easy or difficult is it for you to see a doctor now	Very difficult	47	9.1
	Very easy	472	90.9
What makes it difficult to get HIV medical care now	Increase in transport charges	34	72.3
	stigmatization	13	27.7
What helps you get HIV medical care now	ARVs are available	237	45.7
	Support from my partner	203	39.1
	Support from HCW and other support groups	66	12.7
	Others	13	2.5
Has there been a time you did not see a doctor for more than 6 months	Yes	156	30.1
	No	363	69.9
Did you start getting medication after stopping	Yes	218	42.0
	No	301	58.0
What helped you most to reconnect to medical care	Health deterioration	21	9.6
	Home visits by HCW	135	61.9
	support from a family member or treatment supporter	62	28.4
What important things should be done to help someone continue with medication without stopping	Accessibility and availability of services	235	45.3
	adherence to counselling	198	38.1
	group or family support, enroll early in support groups	86	16.6



Uptake of HIV/AIDS care and support services

We examined the uptake of HIV/AIDS care and support services among the study participants in four areas, namely: linkage to care, retention to care, treatment adherence, and satisfaction with care and support services. **Linkage to care.** The study findings show that

46.6% first saw their doctor in less than 3 months, with a smaller proportion (8.5%) having done so after more than a year. However, most of them reported that it was difficult to see a doctor, nurse, or other health care worker for HIV medical care the first time after they tested positive, with most of them blaming stigma (32.6%) and accepting their status (23.3%).

Table 3:
Satisfaction with care

Variable	Categories	n	%
What change would you bring to improve services for PLWHA	Counsel clients and family to reduce stigma	122	23.5
	Improve on availability of services, employ more staff	223	43.0
	Provide transport, financial support and food	79	15.2
	Take services to rural and establish community ART	95	18.3
Which health facility do you receive health services	Marigat	141	27.2
	BCRH	132	25.4
	Tenges, Timboroa, Torongo health facilities	52	10.0
	Kabartonjo health facility	40	7.7
	Mercy mission hospital	36	6.9
	Eldama ravine hospital	32	6.2
	Esageri health facility	33	6.4
Last time visited the facility	Other health facilities	53	10.2
	Within the last 7 days	194	98.5
	More than a week ago	1	0.5
Do you know of any other facility	More than one month ago	2	1.0
	Yes	477	91.9
	No	37	7.1
Why do I go to my usual health facility	Don't know	5	1.0
	It is closer	283	35.6
	So, no one recognizes me	171	21.5
	I prefer the services offered	216	27.1
	Transport is easier	111	13.9
In the last 6 months have you ever visited the health facility and not received services	Other	15	1.9
	Yes	204	39.3
The reason you could not receive services at the health facility	No	315	60.7
	Long Wait	66	32.0
	The provider was not available	90	43.7
	Medications were not available	23	11.2
Is it safer to use traditional remedies/ medicines than HIV medicines	Other	27	13.1
	Yes	31	6.0
	No	488	94.0



In their view, counselling and disclosure (21.2%) and treatment follow-ups (17.9%) are important and should be done for people to get care.

Retention to care. As summarized in Table 2, the majority (72.3%) said increased transport charges hinder HIV patients' access to HIV care, but availability of ARVs (45.7%), partner support (39.1%), home visits (61.9%), and accessibility (45.3%) were very important in

helping someone continue with medication without stopping.

Treatment adherence. The study findings on treatment adherence showed that most of the respondents (72.6%) had not skipped taking medication apart from being told to do so by a doctor with more than half (58.6%) stating that it was easy to take all their medication without skipping or missing.

Table 4:
HIV Support and Care

Variable	Categories	n	%
Have you ever got help from someone whose job is to assist you with things you may have needed to take care of your HIV, like finding a doctor, transportation, and food?	Yes	325	62.6
	No	194	37.4
How long after testing positive did you get someone to help	Less than 3 months	120	36.9
	4 – 6 months	72	22.1
	6 months to 1 year	95	29.2
	More than 1 year	38	11.7
What things are important for someone who first tests positive	sensitization on support services and follow-ups	251	48.4
	Confidentiality and disclosure to the concerned	145	27.9
	Counselling	61	11.7
Are there any community services to support HIV/AIDS	Accessibility of ARVs	62	11.9
	Yes	223	43.0
	No	296	57.0
How would you feel about getting info in church	Yes, I would be okay with it	304	58.6
	No, I would not be okay with it	195	37.6
	I don't go to church	20	3.8
Are there barriers to receiving support in your community	Yes	391	75.3
	No	128	24.7
What are your recommendations regarding areas of HIV support needed	Provide quality, accessible and integrated service	305	58.8
	Transport and nutritional services	120	23.1
	psychological counselling to reduce stigma	94	18.1
Do you prefer home-based care instead of regular visits?	Yes, HBC improves accessibility and reduces transport cost	283	54.5
	No, because of increased stigma as my status will be known	236	45.5
If married, does your partner know you are taking ART?	Yes	255	64.4
	No	119	30.0
	I don't know	22	5.6
Is it difficult to take ART when a family member is watching?	Yes	253	48.7
	No	266	51.3



Nearly a third (32.9%) reported that ART side effects, pill size, number of pills, and time make it difficult to take medication without skipping. Alarm setting (24.1%) and treatment/partner supporters (18.7%) were also identified to be very important in helping them take their medication without skipping

Satisfaction with care

Table 3 shows respondents' views on satisfaction with care, with 43% suggesting improving services and counselling to reduce stigma. More than a third (35.6%) attended the health facility because of its proximity while 21.5% did so because they did not want to be

recognized. Those who went but did not receive the service complained of long waiting (32.0%) and providers not being available (43.7%).

HIV Support and care

Concerning HIV support and care, 62.6% had received help from someone to take care of their HIV, and 48.4% said it was important to be sensitized to the support services available. Besides, 58.8% said they wanted the provision of quality, accessible and integrated services with a comparable proportion (54.5%) confirming that home-based care is good as it improves accessibility and reduces transport costs (table 4).

Table 5:

Association between sociodemographic characteristics of HIV Clients and utilization of HIV care and support services

Variable	Categories	n	Utilization of HIV Services		Odds Ratio (OR)	95% CI	P value
			Yes	No			
Gender	Male	240	38.3	61.7	0.9	0.6 – 1.3	0.67
	Female	279	40.1	59.9			
Age group in years	≤ 30	116	36.2	63.8	0.8	0.6 – 1.3	0.44
	> 30	403	40.2	59.8			
Marital status	Married	308	38.6	61.4	0.9	0.6 – 1.3	0.71
	Not married	211	40.3	59.7			
Level of education	None	55	50.9	49.1	1.7	1.0 – 3.0	0.06
	Primary and above	464	37.9	62.1			
Religion	Atheists	64	23.4	76.6	0.4	0.2 – 0.8	0.006
	Christians / Muslims	455	41.5	58.5			
Residence	Rural	208	30.3	69.7	0.5	0.4 – 0.7	0.0006
	Urban / Peri -Urban	311	45.3	54.7			
Ethnicity	Tugen	275	34.2	65.8	0.8	0.4 – 0.9	0.011
	Other tribes	244	45.1	54.9			
Employment status	Unemployed	128	43.0	57.0	1.2	0.8 – 1.8	0.33
	Employed	391	38.1	61.9			
Monthly income (KSh)	< 10,000	393	44.3	55.7	2.5	1.6 – 4.0	< 0.0001
	≥ 10,000	126	23.8	76.2			
Number of people supported by the income	≤ 3	142	42.2	57.8	1.2	0.8 – 1.7	0.40
	> 3	377	38.2	61.8			
Number of years post HIV diagnosis	≤ 5	50	40.0	60.0	1.0	0.6 – 1.9	0.92
	> 5	469	39.2	60.8			
Last CD4 Count	≥ 500	95	44.2	55.8	1.3	0.8 – 2.0	0.28
	< 500	424	38.2	61.8			
Lowest CD4 Count ever	< 500	309	43.0	57.0	1.5	1.0 – 2.1	0.03

Association between socio-demographic characteristics and uptake of HIV care and support services

To examine the association between socio-demographic characteristics of HIV Clients and uptake of HIV care and support services, bivariate analysis was performed on several independent variables with the outcome as having visited a health facility for HIV care and support services in the last 6 months. From the results, 50% of those from rural areas were unlikely to have gone for the services (OR: 0.5; 95% CI: 0.4

– 0.7; $p = 0.0006$). In contrast, participants who earned a monthly income of less than KSh. 10,000 were 2.5 times more likely to have utilized the services (OR:2.5; 95% CI: 1.6 – 4.0; $p < 0.0001$). Similarly, those with a low CD4 count of less than 500 had higher odds of having used the services compared to those with higher CD4 counts (OR: 1.5; 95% CI: 1.0 – 2.1; $p = 0.03$). Notably, the likelihood of using the services among those with education versus their counterparts with primary education and above was 1.7, with a marginally statistically significant ($p = 0.06$) association (table 5).

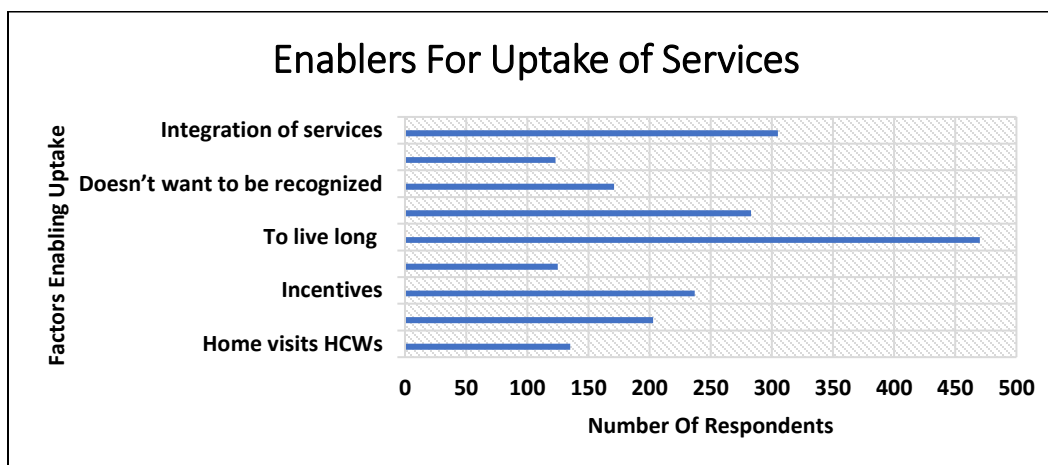


Figure 2:
Factors enabling uptake of HIV care services

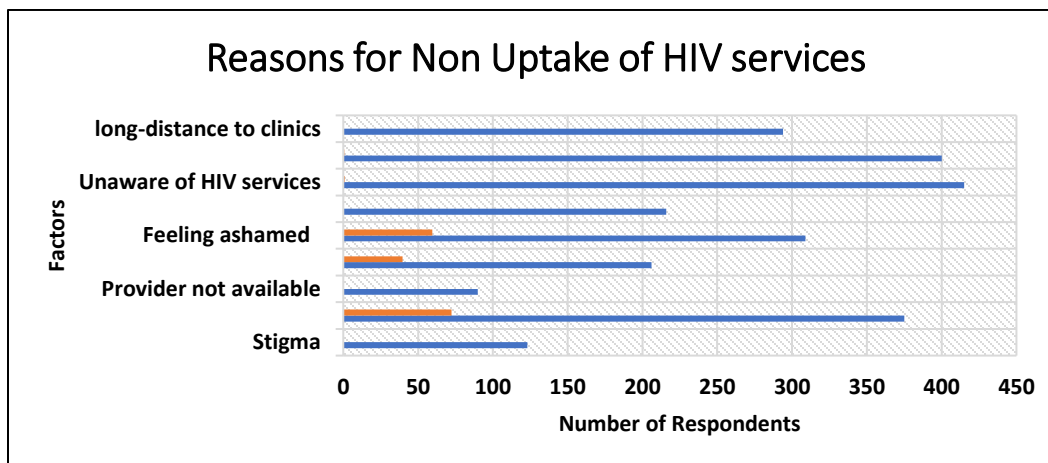


Figure 3:
Factors that hinder the Uptake of HIV/AIDS services



Levels of uptake of HIV/AIDS care and support services

The uptake was determined by the degree to which patients adhered to their treatment plan and showed up to their scheduled clinic appointments. Above 80% of those who had not skipped treatments or clinic appointments were considered to have a higher uptake. Whereas those who adhered to less than 80% were considered low uptake. The overall uptake was found to be 50.7% and considered low.

Factors enabling uptake of HIV/AIDS care and support services

The themes that emerged from the study with data on enabling factors were socioeconomic and individual level, health system, and clinical. The most frequent enabling factors were the need to live long (90.0%) and partner support (39.1%). Concerning the health system and clinical factors, home visits by Health care workers (61.9%), incentives, e.g., support with transport (45.7%), integration of available services (58.8%), and improvement of the quality of health services (43.0%), improved the uptake of services (Figure 2).

Reasons for non-uptake of HIV/AIDS care and support services

Most of the respondents who had not utilized HIV/AIDS care and support services [50.7%] cited an increase in transport charges to the facility as a reason for non-uptake, $n = 375$ [72.3%], lack of knowledge of available services [80%] and some participants cited fear of spouses getting angry [77%] and hindering the uptake of HIV/AIDS care and support services (figure 3).

Discussion

This study found the majority of participants expressed positive attitudes towards HIV care and support services use, but there was unfavourable utilization due to low knowledge of HIV/AIDS support and care services available to them. Notably, the likelihood of using the services was higher in individuals with more than

primary education in comparison to those with primary education only. Consistent with this finding, studies in Nigeria found a higher educational level compared to a lower education level was significantly associated with greater compliance with HIV treatments [17]. This could be interpreted to mean Low awareness/knowledge of HIV care and support services as a key barrier to the uptake of services.

Interestingly, the diagnosis and start of treatment for HIV-positive clients did not ensure regular uptake of services. In this study, the majority of respondents reported fear of taking HIV treatments due to their spouse getting enraged and violent. Likewise, a scoping review of available literature concurs that social issues such as gender-based violence have been shown to act as a barrier to using HIV treatments and care [18]. However, this study shows that this illness should be viewed as a social problem and that support services are crucial in overcoming personal obstacles to encouraging care and treatment use.

Moreover, this study showed that the majority of participants attributed their low desire to seek HIV care and treatment to stigma and their inability to accept their status as HIV positive. Similarly, the fears of stigma associated with attending clinics significantly influenced those who felt they were hesitant to seek care services due to others' reactions. These findings are comparable with those of a study conducted in Nigeria, which reported that stigma contributed to treatment non-adherence, potentially leading to poor treatment outcomes and poor health outcomes for people living with HIV/AIDS [19]. Besides, a recent study in Kilifi, Kenya established that HIV Stigma had a strong association with HIV treatment behaviour and outcome [20]. Given the various dimensions of stigma observed, the true lesson here is that counselling, being mindful of how we talk to PLWHA and correcting misconceptions about



HIV treatment is essential to promote the uptake of services.

Considering the hospital's challenges, clinics were not always open, especially during the holidays and weekends. The majority of clients were not aware of other support services available for clients diagnosed with HIV, and to a lesser extent, participants perceived health workers as hindering the uptake of HIV care by talking negatively about people living with HIV/AIDS. Consistent with other studies, friendly health care providers and Peer-to-peer sharing of HIV care and support services knowledge and available alternatives created a demand for uptake among Female Sex Workers in Tanzania [21]. Moreover, studies have shown that despite having a dedicated comprehensive care Center for HIV services at the hospital level, having healthcare centres with a shortage of staff, drugs, equipment, and support services may deter the uptake of care [22].

Further, this study revealed that the distance to the clinics and rising transportation costs had an impact on the participants' access to HIV care and support services. Respondents travelled to the clinic using motorcycles, public vehicles, and private vehicles. In both instances, they needed money to facilitate access the health facilities. Consistent with another study conducted in Tanzania, Female Sexual Workers who tested HIV positive failed to present themselves to an HIV care clinic due to the cost of transport [21]. Additionally, some clients reported challenges obtaining time out of work to get to clinics. To address these shortcomings, community-based interventions should be considered, such as outreach services, home-based care providers, peer educators, and home counsellors, delivering ARVS to the client's homes, and developing innovative community-targeted approaches [23]. Besides, the HIV care centres should be situated closer to the client's homes to ensure that they get treatments without

having to necessarily travel long distances to get HIV care and treatment.

In line with the foregoing, the respondents who found it challenging to access care services were 70% less likely to have used them. In addition, poor health-seeking habits and scarce resources, particularly in rural regions, were linked to reduced access to HIV care and support services. According to earlier research [13], PLWHAs are vulnerable to low uptake because of a lack of understanding, inadequate coverage, and social exclusion. Therefore, these findings clarify the causes of the county's low coverage and uptake. Hence, to increase access and uptake, it is necessary to improve the quality and coverage of HIV/AIDS care and support services.

Limitations of study

The study's main limitation was the inability to include non-enrolled HIV/infected clients, suggesting future research should consider unenrolled HIV-positive clients, since the characteristics for uptake of services may differ from enrolled clients and region.

Conclusion

Whereas, greater than primary level education, low CD4 counts, partner support, incentives and lower monthly income increased uptake of HIV care services, lack of knowledge about available services, long distance from treatment facility, high travelling costs, stigma of clinic attendance, being a rural resident and unavailability of services providers, harmed the uptake of the HIV care and treatment in Baringo County. The data presented suggests that multiple interventions be used to optimize care and deal with different situations linked to the low uptake seen in resource-constrained regions.

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