

Original article

HIV/AIDS service provision in Ethiopia: Evidence from service provision assessment plus survey

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Abstract

Introduction: The epidemic of HIV/AIDS has rapidly spread throughout the country after the detection of the first two reported AIDS cases in 1986 in Ethiopia. There are multiple factors for combating the high prevalence of HIV/AIDS. Service availability and readiness are among the factors.

Objective: To assess the availability and preparedness of health facilities in Ethiopia to provide quality HIV/AIDS services.

Methods: The data used in this study came from the 2014 Ethiopian Service Provision Assessment Plus survey. Data were collected using a facility inventory questionnaire. All hospitals were included in the survey. A total of 363 health facilities were selected. The sample for the survey was a stratified random sample designed. Health posts were excluded from this analysis.

Result: Among all health facilities, 59% of them report having an HIV testing system in the facility or else agreed to the external testing site (or in affiliated laboratory). Out of that, 97%, 27%, and 17% of facilities offer opportunistic disease treatment, HIV/AIDS care and support services, and ART for HIV/AIDS patients respectively. Concerning the trained staff on HIV testing, 47% HIV testing service providers received in-service training during 24 months preceding the survey. As well, 31% of Ethiopian health facilities have Post Exposure Prophylaxis service for HIV that can be accessed by their staff working in the facilities.

Conclusion: HIV testing system in Ethiopia was low. Less than half of the HIV testing service providers received in-service training. Similarly, more than 2/3 of health facilities workers did not have access to PEP.

Keywords: HIV/AIDS, Service Provision, Service Provision Assessment plus, Health facilities

Introduction

Approximately 37.9 million people across the globe were living with HIV/AIDS in 2018. Of these, 36.2 million were adults and 1.7 million were children (<15 years old) (Global Statistics 2019). Sub-Saharan Africa remains most severely affected, with nearly one in every 25 adults (4.2%) living with HIV and accounting for nearly two-thirds of the people living with HIV worldwide (WHO 2018). In 2018, 23.3 million people with HIV (62%) were accessing antiretroviral therapy (ART) globally, an increase of 1.6 million since 2017, and up from 8 million in 2010 (Global Statistics 2019). About 32 million people have died from AIDS-related illnesses since the start of the epidemic (UNAIDS 2019). Since the detection of the first two reported AIDS cases in 1986 in Ethiopia, the epidemic has rapidly spread throughout the country. According to the Ethiopian Demographic Health Survey (EDHS) 2016, the adult prevalence of HIV/AIDS is 0.9 (DHS 2016). The epidemic expanded rapidly and reached a plateau around the mid-1990s. In major urban settings, the epidemic is on the decline while stabilizing in rural areas (UNHCR 2018).

Since 2008 HIV incidence rate began to rise by 10% and the number of new infections diagnosed each year increased by 36% among all ages and doubled among adults. Antiretroviral therapy coverage has increased by 90% of all age and tripled among pregnant women within six years. Nationally, 67% of people living with HIV know their status, 88% of them are on treatment and 86% of people on treatment have viral suppression (Tadele Girmu, 2018). However, limited availability of laboratory services such as HIV RNA load and drug resistance testing and monitoring due to lack of experience of health professionals, and weak infrastructure and health care system contribute to delay in diagnosis of treatment failure (Adal 2019). Africa facing the same scenario, particularly Malawi was struggling to strengthen HIV care services. Malawi's district (Blantyre and Thyolo) health system strengthening and quality improvement for service delivery were above the national average of 87% in quarter one (Q1) of 2017. The two districts addressing the root causes of poor performance in linkage to HIV care services contributed to this indicator improvement. These include, implementing same-day ART initiation, tracing patients that did not start treatment, and having expert clients physically escort new

clients to the ART clinic (Management Sciences for Health, 2018).

There are multiple factors for combating the high prevalence of HIV/AIDS. To prevent further escalation of the HIV epidemic, efforts to scale up HIV prevention programs addressing females, people with low education, lower age at marriage, alcohol consumption, condom use and multiple sexual partners for all age groups remains a top priority. Care and treatment are urgently needed for those infected (Elia J Mmbaga, 2007). Since the main route through which access to health services impacts on the HIV/AIDS epidemic is the non-treatment of STIs (Temah, 2009). In fragile health systems, as is the case in most resource-constrained countries, the human resource crisis is the result of many macroeconomic and governance factors. The crisis is further compounded by the impacts of the HIV/AIDS pandemic. Key policies need to urgently respond to the need to strengthen the broken health systems and accelerate production, retention, and replacement of health workers through proper human resource development, management, and provision of necessary incentives. Health services are an essential service and health workers should be treated as an essential and vital national resource, especially in the current state of the HIV/AIDS epidemic (Linda Tawfik, 2006). Knowing that service availability and readiness are among the factors, this study is to assess the availability and preparedness of health facilities in Ethiopia to provide quality HIV/AIDS services.

Materials and Methods

Study area and design: A total of 23,144 functional and formal sector health facilities are available in Ethiopia which includes 214 hospitals, 3,317 health centers, 15, 525 health posts, and 4,088 private clinics. The information for this cross-sectional study was collected from the health facilities that managed by the government, NGO and private for-profit organizations.

Data sources and data collection instrument: The data used in this study came from the 2014 Ethiopian Service Provision Assessment Plus (SPA+) survey that are nationally and sub-nationally representative. Data were collected using a facility inventory questionnaires which initially prepared in English, then translated into Amharic and finally translated back to English to check for clarity, consistency, and completeness. English and Amharic translation of the questionnaires were loaded onto tablet computers, which were used during interviews to ask questions and also record responses (computer-assisted personal interviewing-CAPI) designed using CSpro.

Sampling: The sample size for the study was determined by a combination of census and random samples. A list of all health facilities in Ethiopia was obtained from the Federal Ministry of Health. Ethiopia has a skewed population distribution at the regional level and the sample allocation for the assessment takes the skewed population distribution of the country into account. Out of the eleven regions, the three most populated regions (Amhara, Oromia and SNNR) represent 83% of the total population of the country (CSA and ICF International, 2012). Thus, a large proportion of facilities will come from these regions. Because of their importance and their limited numbers, all hospitals were included in the survey and allowing for the inclusion of newly identified hospitals in the survey. The sample for the survey was a stratified random sample designed. A representative sample of health centers and clinics were selected and included in the survey. The sample size determination has been achieved by controlling the survey precision at the regional level and by facility type at the national level. A total sample size of 1,327 health facilities was selected by using the formula:

$$n = \frac{(1 - p)}{\varepsilon^2 p}$$

Where ε is the requested relative standard error for estimating a proportion p . With the proposed sample size, for an indicator at a 30% level a “good” survey precision was achieved at the national level by facility type; a “good-to-acceptable” precision was achieved at the regional level for the higher-level health facilities.

Training and data collection: The questionnaires were pre-tested in Adama within 30 health facilities to detect any possible problems in the flow of the questionnaires, gauge the length of time required for interviews, as well as any problems in the translations. The pre-test also helped to detect any problems with the data entry programs. Data collectors were BSc degree holders in health-related fields and experienced with data collection. The main data collection took place from March 10, 2014, to July 25, 2014.

Data management and analysis: The interviewer sent the downloaded information regularly to the central office Ethiopian Public Health Institute (EPHI). Data were cleaned by checking of range, structure, and selected set of checks for internal consistency. All data editing programs were conducted using CSpro software. Descriptive analysis was performed using CSpro tabulation.

Ethical clearance: Ethical clearance was obtained from the Institutional Review Board of Scientific and

Ethical Review Office (SERO) of EPHI. Copies of letters of approval by SERO were presented to regional health bureaus. On top of that, informed consent was obtained from the facility in-charge, from all study participants for the facility inventory questionnaires, and from interviewed providers.

Result

Availability of basic services for HIV/AIDS:

Overall, 59% of facilities report having an HIV testing system in the facility or else agreed to the external testing site (or in the affiliated laboratory). Lower clinics (6%) are among the least likely to report having an HIV testing system. While referral hospitals, primary hospitals, general hospitals, and health centers were conducting HIV testing in the facility or else in an external testing site and having an agreement with that external site that test results will be returned to the facility with 100%, 98%, 96%,

and 94% respectively. All facilities report conducting HIV testing in the facility and had HIV rapid diagnostic test kits or ELISA testing capacity or dynabeads testing capacity or western blot testing capacity observed in the facility to support the provision of quality HIV testing and counseling services or in the affiliated laboratory. About six in every ten facilities managed by NGO's (mission/faith-based, non-profit) and more than nine in every ten health facilities managed by government and other governmental (military, prison and federal) have HIV testing available in their facility or in the affiliated laboratory than facilities managed by other authorities. Facilities in Tigray (83%) and Afar (78%) are more likely to have HIV testing systems than facilities in other regions. Particularly, the Gambella region (22%), the lowest to has HIV testing systems (Table 1).

Table 1: Availability of HIV testing and counselling services, Ethiopia SPA+ 2014

Background characteristics	Percentage of facilities with HIV testing system that have									Number of facilities having HIV testing system
	Percentage of all facilities with HIV testing system ¹	Number of facilities	HIV testing capacity ²	HIV testing and counseling guidelines	Trained provider ³	Visual and auditory privacy ⁴	Client record ⁵	Condoms ⁶	Access to HIV PEP ⁷	
Facility type										
Referral Hospital	100	2	100	56	78	94	66	75	91	2
General Hospital	98	7	100	60	84	98	65	64	79	7
Primary Hospital	96	3	100	60	76	98	54	72	82	3
Health Center	94	182	100	23	43	95	51	76	33	171
Higher Clinic	72	13	96	36	50	99	70	64	12	10
Medium Clinic	45	37	100	23	59	94	51	50	3	17
Lower Clinic	6	119	100	1	36	84	26	73	0	7
Managing authority										
Government/ Public	94	190	100	25	45	96	51	76	35	179
Other governmental*	94	2	100	9	77	100	100	94	6	2
Private for profit	19	163	99	26	55	93	48	59	8	31
NGOs	58	8	100	21	43	100	59	33	32	5
Region										
Tigray	83	22	100	51	61	100	58	72	49	18
Afar	78	5	100	10	62	100	32	60	27	4
Amhara	58	87	100	30	54	92	36	86	34	51
Oromia	63	116	100	21	42	92	59	69	26	73
Somali	72	8	100	12	49	99	32	68	17	6
Benish. Gumuz	44	4	100	54	93	100	64	79	50	2
SNNP	55	80	100	12	28	100	51	68	29	44
Gambella	22	6	100	31	41	100	62	73	25	1
Harari	49	2	100	35	76	100	59	29	35	1
Addis Ababa	45	31	97	37	67	98	68	72	33	14
Dire Dawa	72	3	100	42	83	100	64	50	44	2
Urban/rural										
Urban	54	149	99	36	61	94	56	72	46	81
Rural	63	214	100	18	38	96	48	73	22	135
Total	59	363	100	25	47	95	51	73	31	216

* = Military, prison, federal police

** = NGO (Mission/ Faith-based, non-profit)

As shown in table 1, among all facilities reporting having HIV testing system, 25% of them have an HIV testing and counselling guidelines. Lower clinics (1%) and other governmental managing facilities (9%) are less likely to have HIV testing and counselling guidelines than other facility types and managing facilities respectively. Records of HIV test

results are moderately (51%) available. Likewise, among all health facilities assessed, 31% of Ethiopian health facilities have PEP for HIV that can be accessed by their staff working in the facilities. Referral, primary and general hospitals have high access to PEP for HIV with 91%, 82%, 79% respectively. Whereas lower clinic has no access to

PEP for HIV. Concerning the trained staff on HIV testing, from all facilities with HIV testing system about 47% an HIV testing service providers received in-service training during 24 months preceding the survey. Lower clinic (36%) was less likely than other facility types to have a trained HIV testing service provider. On top of these, 95% of facilities with an HIV testing system offer visual and auditory privacy that means a private room or screened-off space available at HIV testing and counselling service site. Seventy-three percent of them have condoms at the HIV testing and counselling site on the day of the survey (Table 1).

Guidelines, trained staff, medicines, and items for HIV/AIDS care and support services: Overall, 27% of facilities offer HIV/AIDS care and support services (CSS). Referral hospitals (91%), general hospitals (82%), and primary hospitals (85%) are more likely to offer HIV/AIDS care and support services. Whereas, private for-profit (15%) and lower clinics (10%) were less likely to offer HIV/AIDS care and support services. The higher (66%) HIV/AIDS care and support services were given in Dire Dawa city administration and the lower (7%) were found in Gambella region facilities (Table 2).

Facilities were assessed for the availability of specific service guidelines. Ninety-five percent of facilities have no guideline for palliative care. The guidelines for palliative care is more likely available in higher clinics (17%) than other facility types. Among all facilities, 43% of them have at least one trained staff who received in-service training on aspects of HIV/AIDS care and support service during the 24 months preceding the survey. Other governmental (military, prison, federal police) were found the highest (85%) and lower clinics were the lowest (less than 1%) received in-service training. There was no staff received in-service training in the Gambella region. In addition, the assessed health facilities show one in every two facilities has a system for screening and testing HIV+ clients for TB. It was more likely available in NGOs managing health facilities (89%), and less likely available in the lower clinic (2%) as indicated in table 2.

Among all facilities assessed that offer HIV/AIDS care and support service, 83% of them have IV solution with an infusion set, which is less likely available in the lower clinic (58%) than other facility types. Thirty-five percent of assessed facilities have fluconazole/IV treatment for fungal infections; this is not available among medium clinics and lower clinics than other health facilities. Seventy-seven percent of all health facilities have cotrimoxazole tablet and which is less likely available in the higher clinic

(11%) than other managing authority facilities. Nine in every ten health facilities that offer HIV/AIDS care and support service have a male condom that directly supports the quality of the provision of the service. Regarding pain management, 83% of health facilities have pain management medicines. This is least likely available in lower clinics (32%) and private for-profit organizations (53%) than other facility types and managing authority. On top of that, 71% of facilities that offer HIV/AIDS care and support services have first-line treatment for TB. Lower clinics (less than 1%) and private for-profit health facilities (13%) are least likely to have first-line TB drugs (Table 2).

Primary preventive, and treatment of Opportunistic Infections: Among all facilities that offer HIV/AIDS care and support services, 97% of them reported that they provide opportunistic disease treatment. The service is fully available in all types of hospitals, health centers, and all managing authority facilities except private for-profit health facilities (90%). Forty-six percent of the facilities that offer HIV care and support services offered systemic intravenous treatment for specific fungal infections (e.g., cryptococcal). Systemic intravenous treatment for specific fungal infections is more likely offered in referral hospitals (90%), and less likely offered in medium clinics (20%). Among all facilities that offer HIV care and support service for HIV clients, 32% of them offer treatment for Kaposi sarcoma, and the service is more likely offered in referral hospitals (79%), and less likely offered in medium clinics (13%) and lower clinics (11%) than other facility types.

Palliative care offered in seven of every ten facilities. NGOs (mission/ faith-based, nonprofit) were fully providing palliative care, and other governmental (military, prison, federal police) offer the least (30%) palliative care. As well, facility type, general hospitals (95%), and higher clinics (94%) are more likely to offer palliative care, and medium clinics (45%) are less likely to offer this service. Overall, seven in every ten health facilities that offer specific HIV/AIDS care and support services offer nutritional rehabilitation services. All primary hospitals offer the service fully; however, lower clinics (56%) are less likely to offer the service than other facility types (Table 3).

Similarly, managing authority of other governmental (military, prison, federal police) offers the least (30%) services on nutritional rehabilitation. Fortified protein supplementation offered in 51%, of which less likely offered in lower clinics (2%) and private for-profit (7%) than other facility type and managing

authority. Eight-three percent of all health facilities assessed that offer HIV care and support service on paediatric HIV client care. All primary hospitals and NGOs provided HIV care and support services on paediatric HIV client care. Among all health facilities that offer HIV CSS, 79% of them have primary preventive treatment for opportunistic infection such

as cotrimoxazole preventive treatment (CPT). All referral hospitals offer full CPT. Somali and Gambella regions fully providing CPT than other regions. Sixty- three percent of health facilities that offer HIV care and support service offer preventive treatment for TB.

Table 2: Guidelines, trained staff, medicines, and items for HIV/AIDS care and support services, Ethiopia SPA+ 2014

Table 2: Guidelines, trained staff, medicines, and items for HIV/AIDS care and support services, Ethiopia 2014													
Background characteristic	% of facilities offering HIV/AIDS care and support services	Number of facilities	Percentage of facilities offering HIV/AIDS care and support services that have:					Medicines					Number of facilities offering HIV/AIDS care and support services
			Guidelines for the clinical management of HIV/AIDS	Guidelines for palliative care	Trained staff ²	System for screening and testing HIV+ clients for TB ³	IV solution with infusion set	Fluconazole/ IV treatment for fungal infections	Cotrimoxazole tablets	First-line treatment for TB ⁴	Pain management	Male condoms	
Facility type													
Referral Hospital	91	2	45	7	62	79	93	79	97	86	100	100	2
General Hospital	82	7	75	6	71	74	96	79	94	91	100	92	6
Primary Hospital	85	3	66	9	55	77	98	84	95	100	98	98	2
Health Center	34	182	43	5	52	62	88	40	97	91	92	97	63
Higher Clinic	19	13	26	17	58	22	60	16	11	23	66	55	2
Medium Clinic	24	37	15	5	13	13	71	0	14	22	76	64	9
Lower Clinic	10	119	2	3	0	2	58	0	20	0	32	65	12
Managing authority													
Government/ public	37	190	46	5	54	64	89	44	97	92	93	98	70
Other governmental	19	2	15	15	85	15	100	30	100	30	100	100	0
Private for profit	15	163	10	6	15	9	64	7	18	13	53	64	24
NGO	20	8	89	0	14	89	100	31	93	86	100	83	2
Region													
Tigray	34	22	79	0	66	76	89	62	96	95	99	100	7
Afar	24	5	10	11	71	15	94	31	84	42	94	83	1
Amhara	41	87	20	8	37	37	77	29	71	64	76	87	35
Oromia	21	116	51	1	41	69	87	39	99	88	94	94	24
Somali	13	8	69	0	49	47	92	41	66	75	75	95	1
Benish. Gumuz	19	4	66	0	100	58	100	83	100	100	100	100	1
SNNP	19	80	34	4	34	46	90	29	59	65	76	96	15
Gambella	7	6	44	0	0	56	100	35	100	100	56	78	0
Harari	29	2	50	10	90	70	60	50	90	80	90	90	1
Addis Ababa	28	31	41	12	61	42	73	27	53	42	80	61	9
Dire Dawa	66	3	33	9	61	52	82	36	70	82	94	85	2
Urban/rural													
Urban	33	149	46	8	44	52	81	44	64	60	81	88	49
Rural	22	214	29	2	42	49	85	25	91	83	85	89	47
Total	27	363	37	5	43	50	83	35	77	71	83	89	96

General hospitals (86%) and NGOs (96%) more likely to provide preventive treatment for TB. Whereas, lower clinics, private for-profit, and other governmental (military, prison, federal police) less likely offer preventive treatment for TB with 26%, 30%, and 30% respectively. Seventy- six percent of health facilities that offer care and support services for HIV/AIDS clients provide micronutrient supplement. All other governmental organizations (military, prison, federal police) offer fully while NGO (mission/ faith-based, nonprofit) provide the least (45%) micronutrient supplement (Table 3).

Advanced services for HIV/AIDS: According to table 4, all health facilities that provide service of

ART for HIV/AIDS patients assessed. Overall, 17% of all health facilities offer ART for HIV/AIDS patients and/or provide ART medical treatment follow-up services including community-based service. These ART services are more likely offered in referral hospitals (94%), general hospitals (87%), and primary hospitals (83%), and it is less likely offered in clinics and private for-profit (less than 1%) than other facility types. At the regional level, among the facilities assessed; Somali (8%), SNNP (9%), and Gambella region (10%) are less likely to offer the service than facilities in other regions. Antiretroviral therapy guidelines are available in 86% of the facilities that prescribe ART for HIV/AIDS patients and/or provide ART medical treatment follow-up

services including community-based service. In all medium clinics and NGO ART guidelines fully available whereas, less likely in other governmental organizations (49%). Fifty- three percent of health facilities that have ART service; have at least one

interviewed provider who received in-service training in some aspect of ART during the 24 months preceding the survey. Medium and lower clinic staff received in-service training (100%) and less likely other governmental organization (less than 1%).

Table 3: HIV care and support services offered, 2014

Background characteristic	Percentage of facilities offering specific Care and Support services (CSS)												Number of facilities offering HIV/AIDS care and support services
	Opportunistic infections Rx	Systemic IV Rx for fungal disease	Rx for Kaposi's sarcoma	Palliative care	Nutritional rehabilitation	Fortified protein supplementation	Pediatric HIV client care	Preventive Rx for TB	CPT ²	Micro nutrient supplementation	FP counseling or services	Condoms for preventing further transmission of HIV	
Facility type													
Referral Hospital	100	90	79	86	90	97	86	79	100	86	100	100	2
General Hospital	100	79	65	95	81	67	85	86	97	88	95	89	6
Primary Hospital	100	64	50	91	100	89	100	82	98	93	100	98	2
Health Center	100	47	33	74	75	62	93	73	84	79	100	97	63
Higher Clinic	83	28	45	94	67	17	92	53	92	87	80	53	2
Medium Clinic	91	20	13	45	59	17	49	27	48	67	98	59	9
Lower Clinic	90	38	11	64	56	2	54	26	62	59	84	65	12
Managing authority													
Government/ public	100	50	36	76	77	65	93	74	85	80	100	98	70
Other governmental	100	100	15	30	30	30	15	30	30	100	100	100	0
Private for profit	90	34	16	61	57	7	56	30	65	68	88	65	24
NGO	100	35	86	100	96	91	100	96	41	45	93	28	2
Region													
Tigray	100	46	45	79	82	79	90	66	96	100	100	100	7
Afar	100	83	15	47	70	54	59	59	70	84	100	83	1
Amhara	97	45	17	65	64	43	82	55	76	70	97	86	35
Oromia	100	51	49	87	69	57	99	76	82	68	99	94	24
Somali	100	89	38	75	69	27	95	75	100	75	100	95	1
Benishan. Gumuz	83	66	58	100	100	83	83	83	83	83	100	100	1
SNNP	100	34	29	72	90	53	73	65	73	80	99	91	15
Gambella	100	13	35	56	87	56	100	56	100	100	100	78	0
Harari	100	40	50	70	90	60	80	80	90	90	100	90	1
Addis Ababa	86	49	34	61	64	37	65	55	82	90	85	68	9
Dire Dawa	97	39	36	76	91	52	67	70	70	88	94	88	2
Urban/rural													
Urban	97	50	32	69	72	52	76	62	81	77	96	89	49
Rural	98	42	31	76	72	49	91	65	77	75	98	87	47
Total	97	46	32	73	72	51	83	63	79	76	97	88	96

As indicated in table 4, 31% of all health facilities which offer ART services have laboratory capacity for complete blood count. Medium clinic (less than 1%) and governmental managing health facilities (28%) are less likely to offer CBC laboratory service than other managing authority and facilities. Amhara and Gambella regions (9% for both) facilities are less likely to offer complete blood count service than other regions facilities. Similarly, 17% of ART services have diagnostic capacity for CD4 cell count. All medium clinics and other governmental managing authority have CD4 cell count. Health centers (8%) and higher clinic (less than 1%) less likely have CD4 cell count. Particularly in Gambella

region, there is no diagnostic capacity for CD4 cell count. None of the assessed facilities offering ART service have a capacity for RNA viral load. Seventeen percent of all health facilities assessed have renal or liver function test. All higher clinic and medium clinics have renal or liver function test. Health center have the lowest (7%) in having renal or liver function test.

The availability of the test were greatly vary across the regions, none of the facilities in Gambella and six percent of facilities in Oromia and Benishangul Gumuz regions have laboratory diagnostic capacity for renal or liver function than facilities in other

regions. In Dire Dawa, Addis Ababa, and Harari the availability of this test is 85%, 66%, and 56% respectively. The survey assessed only the availability of first line adult ART regimens in facilities for ARV prophylaxis for adult treatment as a single dose, double or triple or fixed drug

combination that offering antiretroviral viral prophylaxis. Among all health facilities assessed that offer ART service, 98% of them have first-line adult ART regimen. Reasonably, the drug is available in all facility types except in lower clinics (not available).

Table 4: Guidelines, trained staff, and laboratory diagnostic capacity for antiretroviral therapy services, 2014

Background characteristics	% of facilities offering ART services ¹	Number of facilities	% of facilities offering ART services		Laboratory diagnostic capacity for				First-line adult ART regimen available ⁴	Number of facilities offering ART services
			ART guidelines	Trained staff ²	Complete blood count ³	CD4 cell count	RNA viral load	Renal or liver function test		
Facility type										
Referral Hospital	94	2	93	63	100	83	0	93	100	2
General Hospital	87	7	90	69	72	54	4	68	98	6
Primary Hospital	83	3	95	63	65	53	0	44	100	2
Health Center	28	182	85	49	21	8	0	7	98	50
Higher Clinic	1	13	70	100	70	0	0	100	100	0
Medium Clinic	0	37	100	100	0	100	0	100	100	0
Lower Clinic	0	119	-	-	-	-	-	-	-	0
Managing authority										
Government	31	190	86	52	28	16	0	14	98	58
Other governmental	6	2	49	0	100	100	0	100	100	0
Private for profit	1	163	90	73	83	19	5	95	100	2
NGO	7	8	100	21	72	41	0	72	90	1
Region										
Tigray	28	22	99	78	39	18	2	18	99	6
Afar	25	5	78	89	47	20	0	20	100	1
Amhara	17	87	74	60	9	19	0	15	94	15
Oromia	19	116	87	38	34	15	0	6	100	22
Somali	8	8	91	51	34	43	0	26	100	1
Benishangul	25	4	100	87	31	12	0	6	100	1
Gumuz										
SNNP	9	80	98	36	25	11	0	14	100	7
Gambella	10	6	70	15	9	0	0	0	100	1
Harari	26	2	89	89	44	33	0	56	100	1
Addis Ababa	17	31	86	71	66	18	1	66	100	5
Dire Dawa	26	3	100	69	85	23	0	85	100	1
Urban/rural										
Urban	26	149	88	56	30	21	1	26	100	39
Rural	10	214	83	47	32	9	0	3	95	22
Total	17	363	86	53	31	17	0	17	98	61

Discussion

The availability of HIV testing system helps the people to know their HIV status. This enables people to make informed decisions about HIV prevention options, including services to prevent children from becoming infected with HIV, male and female condoms, harm reduction services for people who inject drugs, voluntary medical male circumcision and pre-exposure and post-exposure prophylaxis (Sidibé 2018). More than half of all facilities have HIV testing system in the facility or else agreed external testing site (or in affiliated laboratory). Among that more likely referral hospital (100%) and less likely lower clinic (6%) have HIV testing system in the facility.

This result shows lower than the service provision assessment survey at 2004 and 2010 in Kenya. Almost three fourth of facilities respectively offering the VCT testing services at least one day a week services by type of facility, managing authority and

province. Among that more likely Stand-alone VCT (100%) have VCT testing system in the facility (NCAPD, MoH, CBS, and ORC Macro 2005; NCAPD, MMS, MPHS, KNBS, and ICF Macro 2011). Facilities in Gambella region (22%) were the lowest to have HIV testing systems than facilities in other regions. However, Gambella region were the highest prevalence rate of HIV/AIDS. In 2005 regionally, Gambella, Addis Ababa, and Harari had the highest prevalence at 6.0, 4.7 and 3.5%, respectively. While in the 2016 survey the highest prevalence (4.8%) was observed in Gambella regional state (Getiye Dejenu Kibret 2019). One of the factor might be, there were not male circumcision practice in Gambella Regional State. Therefore, Voluntary Medical Male Circumcision (VMMC) is considered to be one of HIV prevention intervention strategies and has been implemented since 2008, targeting adult males (15+ years) first and gradually adolescent boys (10-14 years). The cumulative number of VMMC up to 30 September 2017 is

76,649 (Federal HIV/AIDS Prevention and Control Office 2018).

Among all assessed health facilities, 27% of facilities offer HIV/AIDS care and support services. Among the facilities, referral hospitals more likely (91%) and lower clinics less likely (10%) to offer HIV/AIDS care and support services. This result is much lower than SPA survey at 2010 in Kenya. Sixty four percent of facilities offering HIV/AIDS care and support services (NCAPD, MMS, MPHS, KNBS, and ICF Macro 2011). This needs great attention since dissatisfaction with healthcare services were risk factors for ART discontinuation (Adal 2019).

People living with HIV/AIDS are at higher risk of developing opportunistic infections. Care and support services include treatment for opportunistic infections and for symptoms related to HIV/AIDS. This study shows that the health facilities were providing systemic IV treatment for fungal diseases, treatment for Kaposi's sarcoma, palliative care, nutritional rehabilitation with 46%, 32%, 73%, and 72% respectively. These results were much higher than SPA survey at 2010 in Kenya. They were providing systemic IV treatment for fungal diseases, treatment for Kaposi's sarcoma, palliative care, nutritional rehabilitation with 17%, 10%, 22%, and, 50% respectively (NCAPD, MMS, MPHS, KNBS; ICF Macro 2011).

Antiretroviral therapy helps people with HIV live longer, healthier lives and reduces the risk of HIV transmission. People with AIDS should start ART immediately (US. Department of Health and Human Services 2019). Overall, 17% of all health facilities excluding health posts offer ART for HIV/AIDS patients. The facilities provide ART medical treatment follow-up services including community-based service. These ART services are more likely offered in referral hospitals (94%) and less likely offered in clinics (less than 1%). At the regional level, among the facilities assessed; Somali (8%), SNNP (9%), and Gambella region (10%) are less likely to offer the service than facilities in other regions. Antiretroviral therapy guidelines are available in 86% of the facilities that prescribe ART for HIV/AIDS patients and/or provide ART medical treatment follow-up services including community-based service. This result goes in line with SPA survey at 2010 in Kenya. Fifteen percent of facilities Prescribe ART and provide medical follow-up services (NCAPD, MMS, MPHS, KNBS, and ICF Macro 2011). Although there are a need to improve HIV/AIDS service provision facilities as a whole, there are some parts which require more attention. Facilities of HIV testing system, and HIV/AIDS care

and support services, particularly at lower clinic need progress. On the other side, Ethiopia SPA+ 2014 is the first national coverage survey and still not done again. This is one of the strength of this study. However, we could not get enough variables for further analysis, since this study is secondary analysis.

Conclusion

Less than half of HIV testing service provider received in-service training. About one third of health facilities workers not have access for PEP. More than one third of the facilities not having an HIV testing system in the facility or else agreed external testing site (or in affiliated laboratory). Generally, HIV testing system in Ethiopia was low.

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