Our Dermatology Online

Original Article

Assessment of the acceptability and feasibility of HIV self-testing in vulnerable population groups in Togo

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ABSTRACT

Background: The aim of this study was to assess the acceptability and feasibility of HIV self-testing in vulnerable population groups. **Methods:** This was a quantitative and qualitative study conducted in April 2022 in thirteen pilot centers of the national AIDS program. The target populations were men who had sex with men (MSM), female sex workers (FSWs), and street adolescents. **Results:** During the study period, 802 people were included in this study, among whom 51.4% were male. The study population consisted mainly of FSWs (34.4%), MSM (24.4%), and people from the general population (23.2%). The median age of the participants was 23 years, ranging from 13 to 77 years. The overall acceptability of the self-test was estimated to be 97.1% (n = 779). Six participants refused to do it immediately yet suggested that they might do it later, and 17 (2.1%) outright refused to do it. Acceptability was 100% among street adolescents, transgender people, and drug users. The lowest level of acceptability (93.5%) was found among the FSWs. Self-testing was considered feasible for 99.7% (n = 777) IC95% (99.1-100.0) of the participants. **Conclusion:** Our study showed that self-testing is a highly acceptable and practical strategy for MSM, FSWs, and adolescents in Togo. Therefore, in order to accelerate the implementation of population screening programs in our country, it is important to bring all innovative interventions to scale if we are to achieve the UNAIDS 95-95-95 targets by 2026.

Key words: Autoimmune bullous dermatoses, Pemphigus, Bullous pemphigoid, Togo

INTRODUCTION

Despite efforts to encourage community members to be tested and to know their HIV status, the uptake of HIV testing is still not optimal worldwide [1]. Difficulty of access and the lack of information about HIV testing are factors that limit the rate of initiation of antiretroviral therapy (ART) and naturally hamper the achievement of global initiatives to eliminate HIV by 2030 [2]. The difficulty of accessing HIV screening affects certain populations in specific cases, in particular, men who have sex with men (MSM) [3,4] and female sex workers (FSWs) [5].

New ways of screening for HIV, including self-testing, are being developed to increase the use of screening services for early diagnosis and treatment of HIV [6-8]. The acceptability of HIV self-testing among these populations is highly variable in both developing and developed countries [9,10]. The acceptability of HIV self-testing ranges from 20.3% to 95% among MSM [3,4], FSWs [5], and transsexual women [11], as well as among men and women in the general population [11,12].

In sub-Saharan Africa, specifically in West and Central Africa, there is little data on self-testing, and the adoption of this strategy is behind that of many developing and developed countries [13,14].

Since 2019, Togo has incorporated this new strategy into its national HIV/AIDS plan. An initial pilot phase

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of self-testing has been running since December 15, 2020, in thirteen health care centers, targeting MSM, FSWs, and the general population, who are difficult to reach with conventional strategies. The aim of this study was to assess the acceptability and feasibility of HIV self-testing among MSM, FSWs, and street adolescents in Togo in 2022.

METHODS

This was a cross-sectional study conducted from April 11 to June 20, 2022, in pilot centers implementing the self-testing approach.

Target population

HSH, FSWs, street kids, or any other person from the general population.

Criteria for Inclusion

People of both sexes who defined themselves as being members of one of the aforementioned populations, aged between 13 and 19 years for street adolescents and 15 years (minimum age required to benefit from self-testing in Togo) or over for the rest of the target population; seen at one of the sites involved in the project and having given their consent or agreement to take part in the survey.

Selection of Study Sites

The various surveys took place in the thirteen pilot centers. In addition, to recruit MSM, FSWs, and street adolescents, the survey was conducted in the hotspots or meeting places for these populations in collaboration with leaders of each of these key populations and members of the associations.

Sampling

For a self-test acceptability hypothesis of 80%, as observed in Ziguinchor and Thiès in the pilot phase of the ATLAS project [15], with an accuracy of 5% and allowing for a 10% margin of non-participation, a minimum of 271 participants should have been included outside the pilot sites; the principal judgment criteria used was the link with care, measured by the proportion of people initiating treatment who had received an HIV self-testing. It is recognized that this is the best indicator for evaluating the implementation of the self-testing strategy. This indicator is generally lower than that observed with conventional screening, yet very often, remains above 50% [16-18]. For a high hypothesis of 60%, with a precision of 5% and assuming a non-response rate of 10%, a minimum of 406 people had to be included in the pilot sites at thirteen centers.

Estimated Indicators and Operational Definitions

Acceptability indicators

- Proportion of acceptance of oral HIV testing, where the numerator is the number of participants who were tested, and the denominator is the number offered the test, expressed as a percentage.
- Percentage of the population willing to conduct self-testing if it were available: total number of people stating that they would conduct the self-test if they had the opportunity divided by the population covered by the survey.

Indicators of Iimplementation

Acceptability: willingness to use, willingness to pay, motivations for acceptance.

- Proportion of people who would be prepared to pay for a self-test.
- Proportion of people who find the self-test easy to use.
- Proportion of population willing to conduct a self-test if it were available: total number of people stating that they would conduct a self-test if they had the opportunity divided by the population under survey.

Suitability/Relevance: benefits/disadvantages perceived, concerns about the program.

- Quantitative: proportion of people who find that the advantages of self-testing predominate over the disadvantages.
- Qualitative: individual interviews or focus groups with customers.

Feasibility: proportion of errors, proportion of assistance, specificity, sensitivity.

- The assessment of feasibility in this study will be defined as the participant's ability to correctly follow the different steps for performing the test in order to obtain a valid result. The numerator is the number of tests with valid results, and the denominator is the total number of participants who performed or attempted to perform the test, expressed as a percentage.

Security: respect for the integrity of individuals, free and non-binding screening.

- Proportion of people who say they have conducted a test under unconstrained conditions.

Statistical Analysis

It was conducted by a quantitative and qualitative survey.

Quantitative Study

The questionnaires were implemented on KoboCollect and the data was exported to R© software, version 1.3.959. Descriptive statistics were performed and the results presented in tables of numbers and proportions with 95% confidence intervals (IC: 95%) for the qualitative variables. Quantitative variables were presented in the form of medians with their interquartile range (IQR).

Qualitative Study

The data was analyzed using the *thematic analysis* approach. In concrete terms, the analyses were conducted in the following stages: reading of the transcripts and identification of emerging themes from the interviews. All the verbatim transcripts were, then, systematically coded. The next steps were to identify recurrent themes, group the themes into thematic categories, summarize each theme, and interpret the results.

Ethics Statement

The survey protocol was validated by the Bioethics Committee for Health Research of the Togo Ministry of Health (Notice N^{o} 051/2021/CBRS of November 18, 2021). Informed consent/assent was obtained from the participants, as well as confidentiality and confidentiality.

RESULTS

Results of Quantitative Survey

Assessment of the acceptability and feasibility of hiv self-testing

Socio-demographic characteristics of the surveys

A total of 802 persons were included in the study, among whom 51.4% were male. The study population consisted mainly of FSWs (34.4%), MSM (24.4%), and people from the general population (23.2%). The median age of the participants was 23 years, IQR (19-30) with extremes from 13 to 77 years. In terms of educational level, 7.7% had not attended school and 71% had at least secondary education. Single people represented 71.2% of the participants (Table 1).

Table 1: Socio-demographic characteristics of the participants

Socio-demographic characteristics	Number (*n*)	Percentage (%)
Age (yrs.)		
Median (IQR*)	23 (19–30)	
Mean (standard deviation)	26 (9)	
Minimum–maximum	13–77	
Age group (yrs.)		
13–17	112	14,0
18–24	330	41,1
25–29	149	18.6
30+	211	26.3
Sex		
Female	390	48.6
Male	412	51.4
Study level		
Out of school	62	7.7
Primary	171	21.3
Secondary	396	49.4
Superior	173	21.6
Marital situation		
Single	571	71.2
Divorced	62	7.7
Married) /Cohabiting	152	19.0
Widowed	17	2.1
Population group		
Female sex workers	275	34.3
Men who have sex with men (MSM)	196	24.4
General population**	186	23.2
Street teenagers	125	15.6
Transgender men/transgender women	11	1.4
Drug users	9	1.1

*IQR=interquartile range. **Anyone who comes to the center for a consultation and does not identify with any of the other populations mentioned

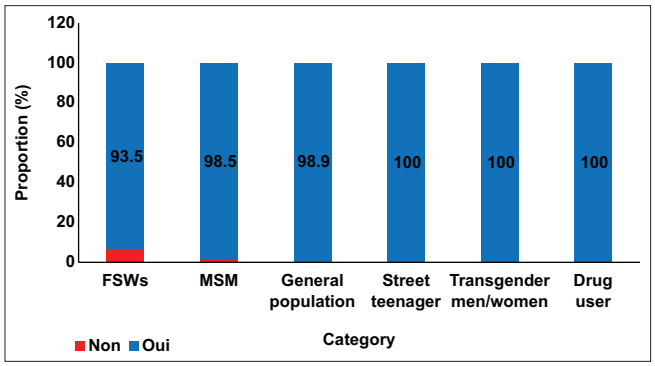

Figure 1: Acceptability of self-testing by the different populations (*n* = 802).

Acceptability of self-testing

In this survey, the overall acceptability of self-testing was estimated to be 97.1% (*n* = 779), 95% CI (95.7-98.2). Six participants refused to do it immediately yet suggested that they might do it later, and 17 (2.1%) categorically refused to do it (Fig. 1). These participants were aged between 18 and 29 (16/17), had a secondary education level or higher (16/17), were single (16/17), and defined themselves as FSWs (15/17).

The acceptability of the self-test was 100% among street adolescents, transgender people, and drug users. The lowest level of acceptability (93.5%) was found among MSM (Fig. 1). In addition, 89.5% of those surveyed said they would be prepared to pay for a self-test if they could afford it.

Feasibility of self-testing

Among the 779 participants who agreed to perform self-testing, two dropped the test kit in the process of testing. If we consider feasibility as the proportion of tests returned with a valid result, the self-test was considered feasible for 99.7% ($n = 777$) IC 95% (99.1-100.0) of the participants. In total, of the 777 tests with valid results, 46 (5.9%) were reactive. Table 2 describes the results of self-testing and their interpretation by the participant and by the investigator (mediator trained to administer the self-test). The agreement between the test results reported by the participants and the results reported by the mediators was 97.9% IC 95% (96.7-98.8), and the Kappa coefficient was estimated to be 0.794 ($p = 0.001$).

Cascade of the self-test process

The overall acceptability of self-testing was 97.1%, and the overall feasibility was 761/779, which is 97.9% (Fig. 2).

Adoption of the self-test and link with care

A total of 5406 HIV self-test kits were distributed between January 1 and December 31, 2021. Among these tests, 562 (10.4%) were reactive, and 94.7% of these reactive tests were confirmed by a conventional test. Treatment was initiated in 470 people out of the 532 (88.3%) confirmed.

Qualitative Survey Results

Suitability/safety

The advantages of self-testing outweighed the disadvantages by 89%. This result was confirmed by the statements made by the participants in the qualitative survey. The main advantages were greater confidentiality, easier performance, quicker results, and reliability.

The main disadvantage was the risk of psychological distress in the event of a reactive test, especially if the test was unassisted and the participant had not received counseling.

DISCUSSION

The high acceptability rate obtained in our study showed that self-testing strategy is easily feasible at

Table 2: Self-testing (n=779) and self-testing result concordance (n=777)

Self-testing and self-testing result concordance	Number (n)	Percentage (%)
Self-testing result (n=779)		
Test performed		
No*	2	0.3
Yes	777	99.7
Result declared by the participant (n=777)		
Negative	741	95.4
Positive	36	4.6
Result read by interviewer (n=777)		
Negative	731	94.1
Positive	46	5.9

Concordance of self-testing result (n=777)			
	Result read by the interviewer		Kappa
	Positive	Negative	
Result declared by the participant			0.794
Positive	33	3	
Negative	13	728	

*Reversed test

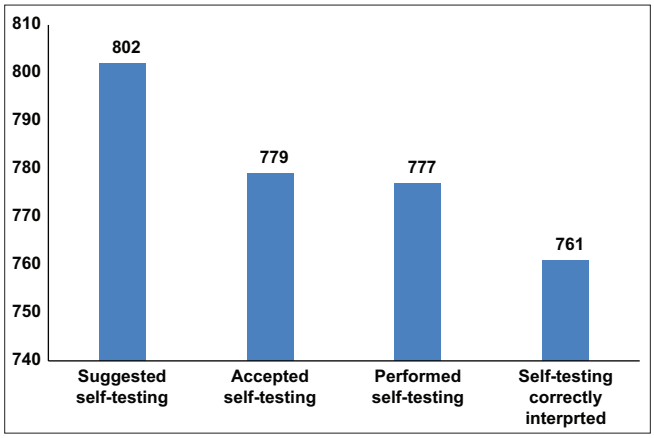

Figure 2: Self-testing cascade (from proposal to interpretation).

the operational level and constitutes an additional tool for optimizing screening of PLHIV, in order to put as many patients as possible on ART treatment as part of the UNAIDS 95-95-95 objectives [19]. It should be pointed out that the adoption of the self-test strategy in the pilot centers in Togo enabled additional PLHIV to be detected and put on treatment (approx. 3% to 5% of the active file) compared with other centers. One of the limitations of our study was that we chose to offer supervised self-testing (under the observation of a health worker). In practice, the rest may be done unsupervised (at home).

Our rate is similar to that obtained in Nigeria, Kenya, and the Democratic Republic of Congo (DRC) in different population groups [15,20,21]. Self-testing is,

therefore, an additional strategy for reaching certain key and vulnerable populations who do not have ready access to conventional health centers for a variety of reasons (stigmatization, organization of services not adapted to the needs and specific characteristics of the target population). A self-test is also a good instrument for screening and monitoring the implementation of pre-exposure prophylaxis [9].

In contrast to African countries, in Europe and in the U.S., self-testing is available to a large proportion of the population. In Spain, the acceptability of self-testing ranged from 78% [22] to 83% [23] in mobile screening units, where it was particularly attractive to MSM, young people, single people, and people who had never been tested for HIV before. In the U.S., salivary self-testing was 90% acceptable [24] in emergency medical services.

In our study, the feasibility of the self-test was 99.7%. In the DRC, 96.1% of patients had used it correctly and 65.2% had asked for verbal instructions before use. The majority of adolescents (93.5%) correctly interpreted the results. Incorrect interpretation of test results is an obstacle to achieving good feasibility of HIV screening in patients with a low level of education, who seem to prefer face-to-face post-test counselling [21]. Therefore, the level of education of people undergoing HIV self-testing would be one of the main factors in the choice between free and supervised self-testing [25].

Obstacles to the use of the self-test include fear of unreliability, lack of psychological support and the need for confirmation by a blood test [26]. However, the advantages far outweigh the disadvantages, which is why HIV programs need to scale up this strategy, particularly, for certain population groups (key populations, adolescents, male partners of HIV-positive women).

CONCLUSION

The results of our study show that self-testing is a highly acceptable and feasible strategy for MSM, FSWs, and adolescents in Togo. In order to accelerate the implementation of screening programs for all populations, particularly, key populations in our country, it is important to scale up all innovative interventions if we are to achieve the UNAIDS 95-95-95 targets (that is, screen and treat as many PLHIV as possible).

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Statement of Human and Animal Rights

All the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 2008 revision of the Declaration of Helsinki of 1975.

Statement of Informed Consent

Informed consent for participation in this study was obtained from all patients.

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