EFFECTIVENESS OF HIV SELF-TESTING IN CAMEROON: EVIDENCE FROM THE STAR INITIATIVE

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BACKGROUND

- In Cameroon, some key populations such as adolescents, young people, men and sex workers are less reached by the routine screening services.
- To reach the global and national testing goals, innovative strategies such as HIV self testing (HIVST) might be needed.
- Cameroon has recently adopted a guidelines for the implementation of HIVST.
- The UNITAID-funded HIV Self-Testing Africa (STAR) Initiative, which aim to provide a solid foundation for the introduction and rapid scale-up of HIVST based on evidence has been recently implemented in several countries, including Cameroon.

OBJECTIVE

To evaluate the effectiveness of HIVST in Cameroon and identify predictors of HIV seropositivity among self-testers.

METHODS

- The study was conducted from 2021-2022 in the Centre, Littoral & Southern regions of Cameroon;
- Eligibility criteria for the HIVST distribution were: (i) ≥18 years old; (ii) Men at risk; (iii) partners of HIV+ people; and (iv) Youths 18 to 24 years old at risk;
- The HIVST kits were distributed either directly or indirectly according to 5 models: (i) Antenatal, postnatal, and maternal and child clinics (ANC/PNC/MCH) (M1); (ii) Partners of other HIV+ (M2); (iii) Workplace (M3); (iv) Community (M4); and (v) HIV testing services (HTS) (M5);
- HIVST was performed on oral fluid with the OraQuick® HIV-1/2 test;
- Reactive and invalid test results from the HIVST were confirmed following the national algorithm at a health facility;
- Regression model was performed to identify factors associated with positivity among HIV self testers.

In Cameroon, evidence from the **STAR Initiative** showed that **oral HIV self testing** is an effective approach to detect **new HIV infections** among the populations which are hard to reach with the routine testing mechanisms; especially in the models considering the **partners of people living with HIV/AIDS and HIV testing sites**.

On the other hand, the **community and workplace distribution models** of oral HIV self testing need to be adjusted.

RESULTS

Table 1. Outcome of HIV testing by self-tester according to sex, age, region, and distribution models.

Variable	Overall	Non reactive	Reactive	Invalid	P-value
Region, n (%)					
Centre	23008	22357 (97.2)	569 (2.5)	82 (0.4)	
Littoral	5920	5848 (98.8)	69 (1.2)	3 (0.1)	**<0.001**
South	7006	6790 (96.9)	187 (2.7)	29 (0.4)	
Distribution type, n (%)					
Primary	23854	23534 (98.7)	218 (0.9)	102 (0.4)	**<0.001**
Secondary	12080	11461 (94.9)	607 (5.0)	12 (0.1)	
Distribution models, n (%)					
ANC	7630	7376 (96.7)	246 (3.2)	8 (0.1)	
Partners of PVVIH	4539	4157 (91.6)	378 (8.3)	4 (0.1)	
Workplace	7309	7218 (98.8)	85 (1.2)	6 (0.1)	**<0.001**
Community	16309	16111 (98.8)	102 (0.6)	96 (0.6)	
HTS	147	133 (90.5)	14 (9.5)	0 (0.0)	
Age categories, years, n (%)					
<25	18415	18142 (98.5)	175 (1.0)	98 (0.5)	
25-39	11689	11252 (96.3)	424 (3.6)	13 (0.1)	**<0.001**
≥40	5830	5601 (96.1)	226 (3.9)	3 (0.1)	
Sex, n (%)					
Male	25710	25064 (97.5)	570 (2.2)	76 (0.3)	0.144
Female	10224	9931 (97.1)	255 (2.5)	38 (0.4)	
HIV testing History, n (%)					
At least one	29703	28949 (97.5)	679 (2.3)	75 (0.3)	
Never	6019	5843 (97.1)	137 (2.3)	39 (0.6)	**<0.001**
Unknown	212	203 (95.8)	9 (4.2)	0 (0.0)	
Total	**35934**	**34995 (97.4)**	**825 (2.3)**	**114 (0.3)**	

ANC: antenatal clinic, CI: confidence interval, HTS: HIV testing site, MCHC: mother and child health clinic, OR: odds ratio, PLWHIV: people living with HIV, PNC: postnatal clinic. P-values were calculated using the Chi-square test. P-values underlined in bold are those which are significant, with statistically significant level fixed at p<0.05.

Figure 1. HIV seropositivity among self-testers using different distribution models

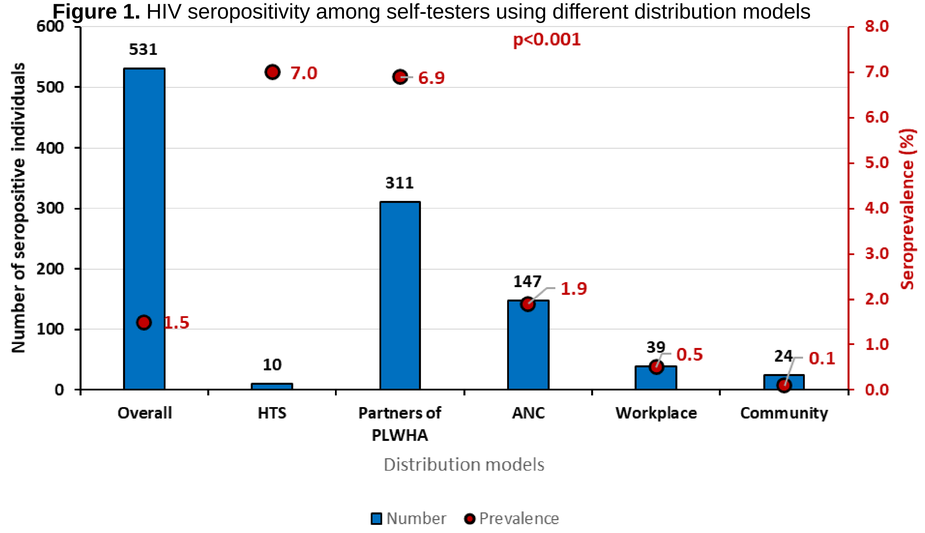

Figure 1. Regression model of factors associated with positivity among self testers

Variables	Univariate model		Multivariate Model	
	OR (95% CI)	P-value	aOR (95% CI)	P-value
Region				
Centre	1		1	
Littoral	0.303 (0.210-0.438)	<0.001	0.494 (0.267-0.914)	**0.025**
Sud	0.929 (0.750-1.149)	0.496	0.683 (0.543-0.860)	**0.001**
Distribution type				
Primary	1		1	
Secondary	10.041 (7.995-12.609)	<0.001	0.359 (0.232-0.556)	**<0.001**
Distribution models				
ANC/PNC/MCHC	1		1	
Partners of PLWHA	3.761 (3.080-4.593)	<0.001	4.007 (3.265-4.917)	**<0.001**
Workplace	0.272 (0.190-0.387)	<0.001	0.176 (0.089-0.349)	**<0.001**
Community	0.075 (0.049-0.116)	<0.001	0.033 (0.017-0.064)	**<0.001**
HTS	3.791 (1.953-7.357)	<0.001	2.906 (1.457-5.794)	**0.002**
Age categories				
<25	0.142 (0.107-0.187)	<0.001	0.683 (0.490-0.952)	**0.024**
25-39	0.935 (0.769-1.137)	0.501	0.903 (0.739-1.102)	0.315
≥40	1		1	
Sex				
Male	1			
Female	1.189 (0.989-1.429)	0.065		
HIV testing history				
At least one	1		1	
Never	0.814 (0.635-1.042)	0.102	1.702 (1.312-2.208)	**<0.001**
Unknown	2.213 (1.036-4.728)	0.040	2.604 (1.181-5.740)	**0.018**

ANC: antenatal clinic, CI: confidence interval, HTS: HIV testing site; MCHC: mother and child health clinic, OR: odds ratio, PLWHIV: people living with HIV, PNC: postnatal clinic. All factors with a p-value <0.005 was adjusted in the multivariable analysis. The model was adjusted for region, distribution type, distribution models, age categories, and HIV testing history.

CONCLUSIONS

HIVST using M1, M2 & M5 distribution models is an effective testing strategy in Cameroon.

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