

Full Length Research Paper

Low knowledge of human immunodeficiency virus (HIV) service sites and implications for testing among Ugandans

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Despite the continued enormous financial investment, through both local and donor funding into human immunodeficiency virus (HIV) prevention and care services in Uganda, the prevalence and incidence rates are raising. Knowledge of HIV determines both uptake of HIV prevention services and behavioural change. We assessed knowledge of HIV service sites and testing benefits among Ugandans at community level. Adult participants (n = 5320) were randomly selected for the study. Participants were asked to mention the: (1) nearest facility providing HIV services and estimate its distance from their household and (2) benefits of HIV testing that they knew. Twelve percent had no knowledge of any HIV service site accessible to them, while only 4.4% knew at least 50% of eight benefits of HIV testing, 35% of those without any idea of the benefits of HIV testing did not know HIV service sources. Knowledge of HIV service sources was dependent on age, level of education and marital status with teenagers being least knowledgeable. Many Ugandans neither know the benefits of HIV testing nor the HIV service facilities available for them with teenagers (15 to 19 years olds) being least informed on where to seek HIV service. Specific methods of relaying HIV prevention messages to the teenagers are required in Uganda.

Key words: Knowledge, human immunodeficiency virus (HIV) service sites, HIV testing benefits, Uganda.

INTRODUCTION

The human immunodeficiency virus (HIV) epidemic remains a major global public health challenge, with a total of 33.3 million people living with the disease worldwide. Universal access to HIV treatment, prevention, care and support offers an opportunity to halt and reverse the spread of the disease hence the global drive for both expansion and extension of HIV services. Although

several international agencies are involved in the promotion and funding activities for universal access to HIV services, program implementation is especially done at individual national level. As a result, country to country differences occur in HIV services. Over the past one decade, significant progress to universal access has been made globally including several low- and middle-

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income countries.

Uganda is one of the countries that achieved drastic reduction of HIV prevalence rates and as a result, it has been often held up as a model for Africa in the fight against HIV and acquired immunodeficiency syndrome (AIDS). Uganda's dramatic decline in HIV prevalence from 28% in the early 1990s to 5% in 2001 was one of the World's earliest AIDS prevention successes. Although Uganda's HIV prevalence rates plateaued for several years, raising trends in both prevalence and incidence have recently been reported (Kron, 2012). The initial success in Uganda's HIV prevention was attributed to sexual behavioural change (Green et al., 2006) and other strategies that targeted the at-risk-group (HIV negatives) (Kirungi et al., 2006). Recent studies however, have demonstrated the significant role of 'positive prevention' - targeting and supporting HIV-infected individuals to modify their behaviour to reduce the risk of future transmission. Effective positive prevention of HIV as well as key components of prevention methods targeting HIV negatives are facility based, requiring easy access to HIV services. Generally, knowledge is a major factor of access to any form of health care including HIV services (Kiwunika et al., 2008; Zhao, Kulane et al., 2009). We report the knowledge level of HIV service sites and testing benefits among Ugandans.

METHODOLOGY

The study was conducted in five districts of Uganda namely; Adjumani, Kaberamaido, Hoima, Mubende and Mukono. Selection of participating districts was purposively done to ensure a geographical representation of findings. In each district, Lot quality assurance sampling (LQAS) method was used to identify clusters of the study area. LQAS is a stratified random sampling method which uses small sample sizes (Bhuiya et al., 2007). Its strengths are in its ability to "red flag" areas in either extremes, enabling collection of representative data with fewer samples (Jutand and Salamon, 2000). From the identified study area clusters, villages to be visited were randomly selected. Stratification of selected villages along the urban rural divide in a ratio of 1:1 was done to ensure equal representation. The sample for each village was disproportionately allocated between 3 categories. Twenty one (21) participating households were selected from each village. Local leaders were asked to help identify households on the list with youth aged 15 to 24 years that constituted the first 7 households to be specifically visited to conduct interviews with 15 to 24 year olds. The remaining households were divided into two to target both adult men and adult women. For households with more than one eligible persons, the Kish table of random numbers was used to select the participants (Kish, 1949), as a way of giving all eligible persons equal chances to participate in the study.

Participants were asked to mention the: (1) nearest facility providing HIV services and estimate its distance from their household and (2) benefits of HIV testing that they knew. On basis of the fact that in Uganda, HIV services are health facility based, facilities providing HIV services referred to in this paper are formal health care facilities (private or public) that provided the service. All participants who were able to name an HIV service site were categorized as being knowledgeable of the service sites irrespective of their ability to estimate distance. Participant knowledge of benefits of HIV testing was assessed against a

predetermined checklist of eight benefits including: to avoid HIV infection, get into HIV care, protect the unborn child, receive antiretroviral therapy, plan for the future, learn living positively, get food support and get material support as adapted from the UPHOLD LQAS survey report on Uganda (Mabirizi et al., 2004).

On the basis of the number of benefits mentioned, participants were categorised as knowing none, 1 to 3 and 4 to 8 benefits. Data was entered into MS access, cleaned before cross-tabulation for knowledge of HIV sites and demographic features including age, level of education and marital status. Stata statistical software version 11 was used for the analysis. To establish the relationship between knowledge of HIV testing benefits and HIV service sites, cross tabulation between the two measurements was done. The study was approved by the Research and Ethics Committee of Mildmay Uganda and by The Uganda National Council for Science and Technology.

RESULTS

A total of 5320 Ugandans aged 15 to 54 years, 71% (n = 3772) of them women, participated in the survey. Overall 12.1% (n = 645) had no knowledge of an HIV service site. Knowledge of an HIV service was not dependent upon sex (p = 0.690) but rather on age, marital status and level of education (p < 0.001) (Table 1). Only 4.4% of all participants knew 4 or more benefits of HIV testing. Of those who knew less than 4 benefits of HIV testing, 12.2% (n = 618) and 87.8% (n = 4459) did not know a single benefit of HIV testing or knew 1 to 3 of the benefits, respectively. Upon cross tabulation for knowledge of benefits of HIV testing and knowledge of HIV service sites, we demonstrate that knowledge of HIV service sites is likely to increase with knowledge of the benefits of HIV testing. This was revealed by the increasing trends in the proportions of participants ignorant of HIV service sites from 4.9 to 9.4 and 34.9% among those who knew at least four, 1 to 3 and those who knew none of the of benefit HIV testing, respectively (Figure 1).

DISCUSSION

Despite the continually increasing political and financial attention on AIDS, which is particularly targeted towards prevention and care programs, results of this study indicate that 12 in every 100 adult Ugandans do not have knowledge of an HIV service site accessible to them. Knowledge of availability of health care services is one of the measures of access to the same. Previous studies have reported a correlation between health care service utilization and knowledge (Zhao et al., 2009). This finding might therefore imply that while HIV services might be available for Ugandans, access and uptake may still be limited. Although the current study did not examine the possible effect of other known factors for access of HIV services such as affordability, availability and acceptability (McLaughlin and Wyszewianski, 2002), it is plausible to think that with their effects combined together,

Table 1. The proportions of adult Ugandans who do not have any idea of a location of HIV service provider by demographic characteristics.

Demographic characteristic	Number of respondents			p-value
	Total (N)	Without knowledge of HIV services site		
		Number (n)	Frequency (%age)	
All study participants	5320	645	12.12	-
Sex				
Male	1548	192	12.4	0.690
Female	3772	453	12	
Age in years				
15-19	1094	225	20.6	< 0.001
20-24	1335	163	12.2	
25-29	1013	87	8.6	
30-34	734	56	7.3	
35-39	529	41	7.8	
40-44	311	34	10.9	
45-49	223	28	12.6	
50-54	81	11	13.6	
Level of education				
None	538	99	18.4	< 0.001
Did not complete primary level	2583	328	12.7	
Primary level	1128	120	10.6	
Post primary level	1071	98	9.2	
Marital status				
Never married	1374	262	19.1	< 0.001
Married	2609	226	8.7	
Co-habiting	1051	123	11.7	
Separated/ Widowed/ Divorced	286	34	11.9	

access to HIV services might be suboptimal. Notwithstanding, promotion of Provider Initiated Testing and Counselling (PITC) initiatives particularly through antenatal clinics, only 36% of Ugandans are aware of their HIV serostatus (Uganda AIDS Commission, 2012) an indication for the need to combine both provider and client initiated testing and counselling initiatives.

At programmatic level, Uganda draws her initial success in HIV prevention from her unique emphasis on HIV preventive messages to the public (Slutkin et al., 2006), a shift from which may probably explain the current rising trends in Uganda's HIV infection rate as reported by a previous survey. The survey indicated that HIV infection rates in Uganda have increased to 7.3% from 6.4% in 2005 and reports Uganda and Chad as the only two African countries, where AIDS rates are on the raise (Kron, 2012). The reported effect of age, level of education and marital status on knowledge of HIV service site in Uganda is in agreement with previous findings on community general HIV knowledge (Karau et al., 2010).

The 16.4 year sexual debut age for Ugandan women (Slaymaker et al., 2009), the finding of 16% of all mothers of children 0 to 11 months old being teens (Civil Society Fund, 2012) and the low HIV service site knowledge among 15 to 19 year olds reported by this study which is in agreement with previous findings (Uzochukwu et al., 2011), indicate the need for more effective means of HIV prevention and care messages among Ugandan teenagers. Conversely, the decreasing trend in knowledge of HIV service sites with age greater than 40 years observed in the current study is in agreement with a recent study which reported lower levels of HIV-related knowledge and awareness among Africans 50 and more years compared to 25 to 49 year olds (Negin et al., 2012). However, considering that most people remain sexually active far beyond this age range, the knowledge gap in this particular age group might undermine HIV prevention efforts.

About ten years back, being unaware of the benefits of HIV testing was reported as an impediment to uptake of

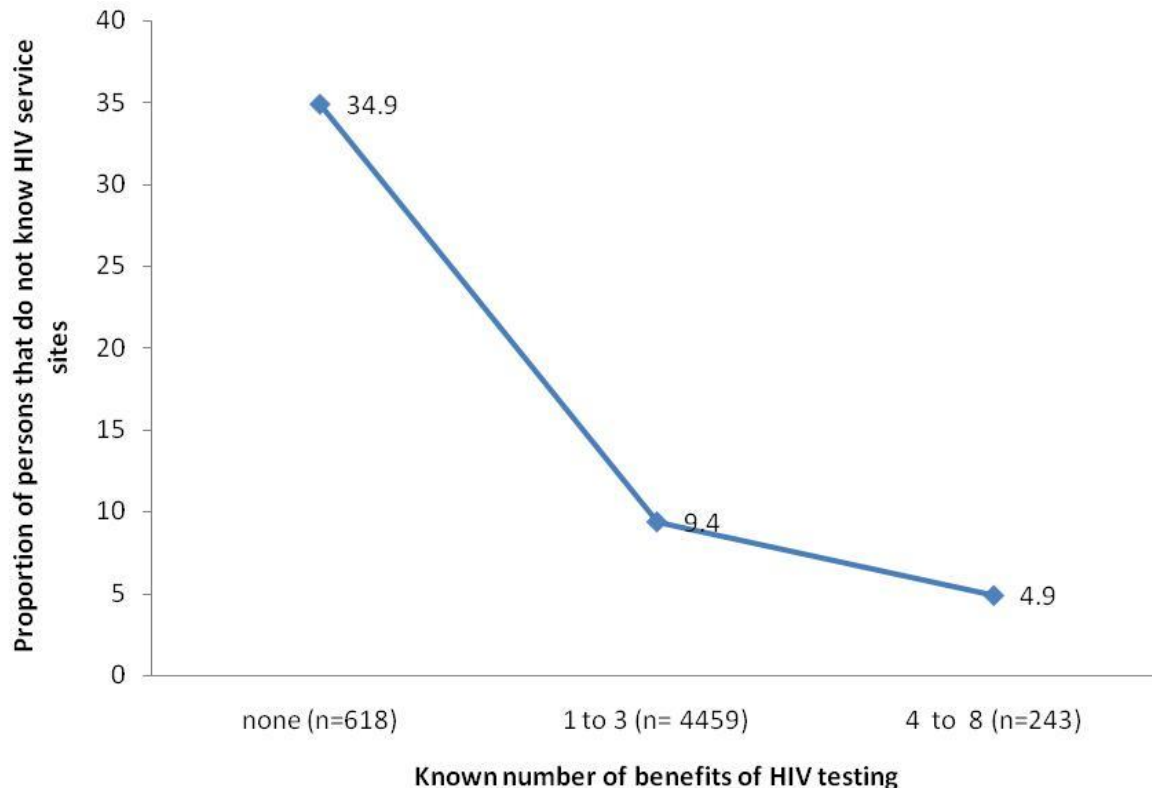


Figure 1. Association between knowledge of benefits of HIV testing and HIV service sites.

voluntary counselling and testing (VCT) in Uganda (Nuwaha et al., 2002). Persistence of lack of knowledge on HIV in Uganda might be attributed to the continued surge in national efforts to increase community awareness of HIV disease and its prevention. Notable is that people who are ignorant of the benefits of HIV testing also do not know the HIV service sites, a clear manifestation of an HIV knowledge shadow among some Ugandans. While a combination of preventive services to the most-at-risk (HIV negatives), positive prevention and Universal HIV testing and treatment (UTT) have been highlighted as promising strategies for ending the HIV epidemic (Bunnell et al., 2006; Granich et al., 2009), most constituents of the combination strategy such as HIV testing and counselling, prevention of mother to child transmission (PMTCT) and the provision of anti-retroviral therapy (ART) are facility based. Lack of general knowledge on HIV and services among communities in Uganda and similar settings is likely to undermine the high cost of would be effective interventions.

Indeed in agreement with Babalola et al. (2007) who reported an association between HIV knowledge and uptake of VCT services, even with increased VCT services in Uganda and the rest of sub-Saharan Africa, individual knowledge of HIV sero-status has remained low (27 to 50%) (Chirawu et al., 2010; Mugisha et al., 2010; Pettifor et al., 2010).

CONCLUSIONS AND RECOMMENDATIONS

Many Ugandans neither know the benefits of HIV testing nor the HIV service facilities available for them with teenagers (15 to 19 year olds) being the least informed on where to seek HIV services. In addition, individuals who do not know the benefits of HIV testing are also unlikely to know where HIV services are found. There might be need for modification of the of national HIV prevention strategies either at policy or programmatic level to devise strategies to reach specific vulnerable sub-populations. Re-evaluation of the strategy to improve knowledge on HIV prevention and existing HIV services at community level with particular focus on Ugandans aged 15 to 19 years, and adult singles is necessary for effective control of the HIV epidemic in Uganda.

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