Using VCT statistics from Kenya in understanding the association between gender and HIV

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ABSTRACT

This paper demonstrates the importance of utilising official statistics from the voluntary counselling and testing centres (VCT) to determine the association between gender and HIV infection rates in Kenya. The study design adopted was a record based survey of data collected from VCT sites in Kenya between the second quarter of 2001 and the second quarter of 2004. Of those who were tested, significantly more females tested positive (P<0.0001) and had twice as high a chance of being infected by HIV (Odds ratio 2.27 with CI 2.23 to 2.31) than males. We conclude that VCT statistics may lead to better planning of services and gender sensitive interventions if utilised well.

Keywords: VCT, HIV, gender.

RÉSUMÉ

Cette communication montre l'importance de l'utilisation des chiffres officiels de centres de consultation et de dépistage volontaires (CDV) lors- qu'on établie un lien entre le genre et le taux d'infection par le VIH au Kenya. Le plan d'étude suivi était celui d'une recherche basée sur des dossiers de données recueillies du CDV au Kenya entre le deuxième trimestre de l'an 2001 et le deuxième trimestre de l'an 2004. Parmi les personnes dépistées, plus de femmes étaient séropositives (P<0,0001) et elles avaient deux fois plus de chance d'être infectées par le VIH (Odds ration 2.27 with CI 2.23 to 2.31) que des hommes. En conclusion, nous estimons que les chiffres du CDV peuvent mener à une planification de services et des interventions sensibles au genre s'ils sont utilisés à bien.

Mots clés: CDV, VIH, genre.

INTRODUCTION

HIV has posed a great threat in sub-Saharan Africa from the time it was first diagnosed. Over the years, research has shown that men and women are affected differently. However these effects seem to be more pronounced in third world countries as opposed to richer nations, possibly due to differences in socio-economic status. Using VCT results from Kenya, we attempt to affirm that infection rates vary by gender and hence the need for gender sensitive interventions.

The understanding of the association between gender and HIV requires that we have data. Following the successful VCT data collection exercise in Kenya (Otwombe *et al.*, 2007), we review these results with regard to gender. Health status, disparities and research in gender may be addressed by utilising the outcome of official statistics (Dunnel, Fitzpatrick & Bunting, 1999). Health research data collected over a period of time is important for purposes of future planning.

HIV/AIDS remains a challenge in Kenya, despite the lower numbers of infection reported recently. Results from the Government of Kenya (GoK) Kenya Demographic and Health Survey (2003) indicate that 7% of Kenyan adults are infected with HIV. The

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Ministry of Health has continuously developed the 5-year strategic plan (GoK, Kenya National Strategic Plan, 2005/2006, 2009/2010) for AIDS control since 1987, and VCT is recognised as an essential component for prevention and transmission of HIV.

VCT data is intended to be used to understand VCT demand, utilisation and surveillance, and for improving management of VCT services (GoK, 2001). The objective of this paper is to show the association between gender and HIV infection rates, gauging its strength, and establishing the trend of VCT uptake in Kenya between the second quarter of 2001 and the second quarter of 2004. We show how this output may enhance planning and delivery of VCT services by gender. Data from this period has been utilised because there was a comprehensive national exercise to update VCT uptake commissioned by the national office at the time, hence its reliability.

METHODOLOGY

Study design

In this exercise, we utilised an evaluative operations research approach that was non-experimental. In our sample, all registered VCT sites were surveyed for missing data at various times (quarters). We adopted a record-based quantitative survey from 332 registered sites.

Data collection

Two teams of four members each were selected and worked simultaneously in different provinces collecting data between 5th September and 15th October 2004. There was a short training session for data collectors before the start of the exercise, with regard to completion of the VCT quarterly reports. Their role entailed collecting missing data from the logbooks in each of the sites. The key variables in this exercise were number of clients presenting for VCT by gender and number testing positive.

Data were collated from September 2001 (shortly after the scale-up of VCT began) up to the second quarter of 2004. For the sites with missing data in the central database (monthly and quarterly) or those with reports that did not disaggregate their data by gender, the teams manually extracted this information from the on-site logbooks and client forms. More information on the challenges encountered in the data collection exercise is encapsulated in Otwombe *et al*. (2007).

Statistical analysis

MS Excel was used for data entry, data cleaning, descriptive analysis and generation of the graphs showing the trend of client visits to the VCT sites over the period 2001 (second quarter) up to 2004 (second quarter). Odds ratio (Bland & Altman, 2000) and Pearson correlation analysis were performed in SAS 9.1.

RESULTS

414 903 clients visited VCT sites in Kenya between 2001 and mid 2004. Figure 1 and 2 display the trend of the uptake of VCT sites and the numbers testing positive between 2001 and mid 2004 by gender. Figure 1 indicates there were more males than females attending VCT sites. Given this trend, it is likely that the 2004 uptake would surpass the 2003 figures. Table 1 shows more females testing positive ($p<0.0001$) than males. The odds ratio analysis (odds ratio, 2.27: 95% CI 2.23, 2.31) indicates that females were twice as likely to get infected as males. Whereas this is not new information, these results show that this conclusion can be drawn using VCT statistics from the Kenyan context.

Table 2 presents the VCT uptake before and after the data collection exercise. Pearson correlation analysis on the trends in Figures 1 and 2 were greater than 0.9, indicating that VCT uptake increased over the years by gender and this increase was significant ($p<0.05$).

Limitations

Statistical analysis of data was limited to the above mentioned methods, since data collection was confined to the following specific variables that were extracted from the quarterly reporting tool: number of males and females attending VCT, and number of males and females testing positive.

DISCUSSION

This paper highlights the importance of analysis of actual VCT data collected at service delivery level, and

TABLE 1. TOTAL OUTCOME BY GENDER AND STATUS

		HIV STATUS		
		Positive	*Negative*	*Total*
SEX	**Females**	40 190	150 466	190 656
	Males	23 611	200 636	224 247
	Total	63 801	351 102	414 903

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TABLE 2. ANNUAL VCT AGGREGATE IN NASCOP BEFORE AND AFTER THE DATA COLLECTION EXERCISE

No. tested				No. positive			
Year	Males	Females	Total	Males	Females	Total	%age
2001-Before	1393	1397	2790	143	322	465	17
After	9694	8457	18151	1475	1922	3397	19
Difference	8301	7060	15361	1332	1600	2932	–
2002-Before	11518	11032	22550	740	1573	2313	10
After	38638	33963	72601	4719	7192	11911	16
Difference	27120	22931	50051	3979	5619	9598	–
2003-Before	55024	43177	98201	5245	9306	14551	15
After	99281	79253	178534	9840	17095	26935	15
Difference	44257	36076	80333	4595	7789	12384	–
2004-Before	36148	34270	70418	3606	6865	10471	15
After	76634	68983	145617	7577	13981	21558	15
Difference	40486	34713	75199	3971	7116	11087	–
TOTAL							
Before	104 083	89 876	193 959	9 734	18 066	27 800	14
After	224 247	190 656	414 903	23 611	40 190	63 801	–
Difference	120 164	100 780	220 944	13 877	22 124	36 001	15

Before-Refers to VCT data available in NASCOP before the data collection exercise
After-Refers to VCT data retrieved during the exercise

its utilisation in making policy and programming decisions that are gender sensitive. The findings demonstrate the role of official statistics in understanding the association between gender and HIV.

In Kenya, VCT data reporting tools are disaggregated by gender, which allows for the identification of discrepancies that could readily be explored. Furthermore, gender is about males and females and how they relate to each other for healthy and equitable relationships on a daily basis.

FIGURE 1. THE ANNUAL AGGREGATE BY GENDER OF CLIENTS VISITING VCT SITES IN KENYA PRESENTED BIANNUALLY. IN 2001 THE FIRST SET OF DATA WAS ONLY AVAILABLE FROM QUARTER 2, WHICH HAS BEEN PRESENTED QUARTERLY

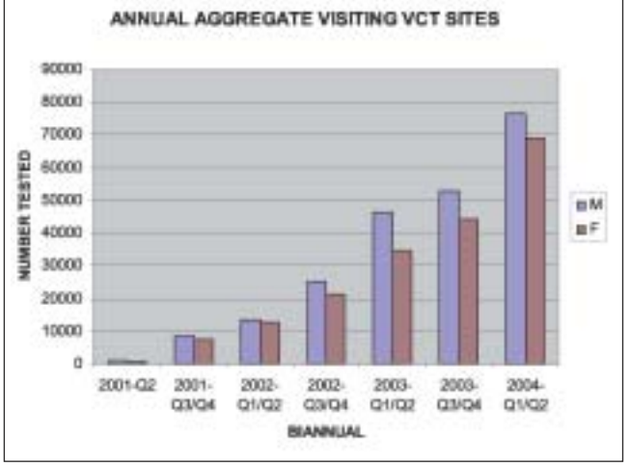
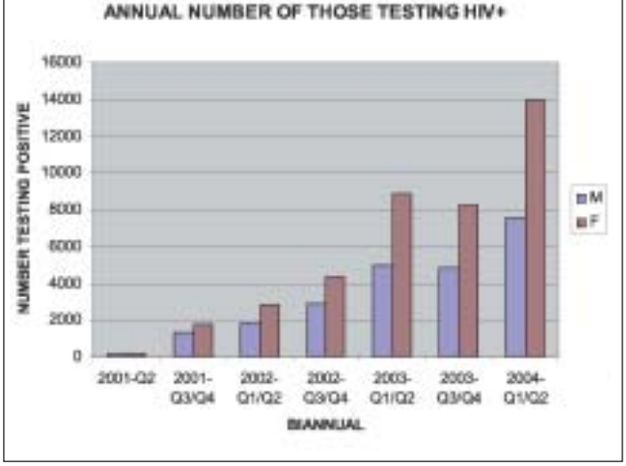


FIGURE 2. THE ANNUAL AGGREGATE BY GENDER OF CLIENTS WHO TESTED HIV+ IN VCT SITES IN KENYA. IN 2001 THE FIRST SET OF DATA WAS ONLY AVAILABLE FROM QUARTER 2, WHICH HAS BEEN PRESENTED QUARTERLY



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The trend in the tables and figures above clearly shows that VCT uptake increased significantly by gender. Whereas this is not new information, male uptake remains higher than for females, but HIV infection rates are higher for females than males. The increasing vulnerability to infection for females is certainly a cause of concern for stakeholders. Liverpool VCT and Care, a leading NGO in Kenya with regard to VCT services, has re-examined their own VCT structure with the aim of engendering service delivery (Taegtmeyer *et al*., 2006). There is a need to strengthen interventions put in place to increase female access to the existing VCT services.

Effective provision of VCT services and understanding of gender issues relies on proper planning by the stakeholders. However, proper planning can only be effective with the provision of accurate and up-to-date data from VCT sites. Hence the need for an up-to-date national database, which could be used to identify both good and bad (acceptable and unacceptable) trends in the performance of sites (Bolsin & Colson, 2003; Colson & Bolsin, 2003).

Gender and HIV are interrelated and since VCTs are an entry point to health care services in Kenya, there is a need to mainstream gender into VCT programmes. However the identification of discrepancies in the VCT uptake by gender is only feasible with up-to-date national official statistics.

REFERENCES

Bland, J.M. & Altman, G. (2000). The odds ratio. *British Medical Journal*, 320, 1468.

Bolsin, S. & Colson, M. (2003). Making the case for personal professional monitoring in healthcare. *International Journal for Quality in Health Care*, 15(1), 1-2.

Colson, M. & Bolsin, S. (2003). The use of statistical process control methods in monitoring clinical performance. *International Journal for Quality in Health Care*, 15(5), 445.

Dunnel, K., Fitzpatrick, J. & Bunting, J. (1999). Making use of official statistics in research on gender and health status: recent British data. *Social Science and Medicine*, 48, 117-127.

Government of Kenya, Kenya National AIDS Strategic plan 2005/6-2009/10.

Government of Kenya (2003), Ministry of Planning and National Development. Demographic and Health Survey (DHS). Central Bureau of Statistics, 4-1-2004.

Government of Kenya (2001). National guidelines for voluntary counseling and testing. Nairobi: National AIDS and STD Programme.

Otwombe, K.N., Wanyungu, J., Nduku, K. & Taegtmeyer, M. (2007). Improving data collection and management from voluntary counseling and testing centres in Kenya. *Bulletin of the WHO*, 85, 315-318.

Taegtmeyer, M., Kilonzo, N., Mung'ala, L., Morgan, G. & Theobald, S. (2006). Using gender analysis to build voluntary counseling and testing responses in Kenya. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 100, 305-311.