

Knowledge, attitude and prevalence of HIV and other STIs among women attending maternal child health clinic at the Bahati District Hospital

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Abstract

Background: The HIV/AIDS pandemic and associated complications have continued to pose a major public health challenge. Millennium Development Goal number 6 aims at, among other targets, halting and reversing the spread of HIV/AIDS by 2015. The predominant mode of transmission for both HIV and other STIs is sexual intercourse. Methods for preventing sexual transmission of HIV and other STIs are the same, as are the target audiences for interventions. To fight the HIV/AIDS epidemic requires a multifaceted effort that includes continuous assessment of knowledge, attitude and practices among communities.

Objective: This study was conducted to assess the knowledge and attitude on HIV/AIDS and other STIs and to assess the prevalence rates among women attending clinic at the Bahati District Hospital.

Methods: This was a prospective cross-sectional study of 206 women attending the Maternal Child Health and family planning clinic at the Bahati District Hospital between 10th May and 10th July, 2010. Data on social demographic characteristics, reproductive history and knowledge and attitude regarding HIV/AIDS and other STIs was collected.

Results: The women had a mean age of 28 years (range 15-53 years). Most women (56.8%) had attained primary education followed by secondary education (35.9%) indicating an appreciable level of being knowledgeable enough to understand issues related to HIV/AIDS and other STIs. Most of the women (89.3%) were married and 6.3% were single. Of the 206 clients interviewed more than 90% of them had not only heard about HIV/AIDS but they also indicated they knew how transmission occurred. About 89% knew that HIV/AIDS could be transmitted from mother to child and indicated how this would happen. Only 61(29.6%) women would disclose if they were HIV – positive. Those with secondary school education had better knowledge on HIV/AIDS and other STIs than those with primary education. The prevalence of STIs was 18.7% and that of HIV was 5.1%.

Conclusions: There was a knowledge gap in associating STIs to HIV/AIDS although the clients were otherwise well informed. The women were fairly informed on mother to child transmission (MTCT) of HIV and measures to reduce the transmission. Stigmatization and fear of the partner deterred disclosure of the HIV status. The prevalence of HIV/AIDS compared to the national status was, however, low.

Key words: Bahati District Hospital, MCH/FP Clinic, HIV/AIDS and other STIs

Introduction

Studies have shown that the AIDS epidemic has begun to change course as the number of people newly infected with HIV is declining and AIDS-related deaths are decreasing. Despite extensive progress against a number of indicators on the global scale, many countries will fail to achieve Millennium Development Goal 6: halting and reversing the spread of HIV (1). Although the prevalence of HIV/AIDS has been shown to be declining in Kenya (2) studies in 2009 have shown that the country is still home to one

of the harshest HIV/AIDS epidemics in the world (1). Estimates of new infections in Kenya stand at 166,000 annually (3) with females above 15 years living with HIV (4). Although the number of perinatal and breastfeeding infections in the world has reduced remarkably between 2001 and 2009 (5), Kenya is still one of the 25 countries with the largest number of pregnant women living with HIV in 2009 (1). Figures seem to indicate that Kenya is unlikely to achieve the UNAIDS goal of virtually eliminating the mother-to-child transmission of HIV by 2015 (6). The health sector of Kenya's Vision 2030 is addressing this issue

by paying special attention to, among other measures, lowering the incidence of HIV/AIDS (7). Within this framework the National Aids Control Council (NACC) developed the 2009/10 to 12/13 Kenya National AIDS Strategic Plan III (KNASP III) which was launched in January, 2010 (3). The plan focuses on prevention of new infections, reduction of HIV-related illnesses and deaths, and mitigation of the effects of the epidemic on households and communities. Individuals who are infected with Sexually Transmitted Infections (STIs) are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contact (8). STIs trends can offer important insights into where the HIV epidemics may arise, making STD surveillance data helpful in forecasting where HIV rates are likely to increase.

Materials and Methods

The study was carried out on 206 women, who attended the Maternal and Child Health and Family Planning Clinic at the Bahati District Hospital between 10th May, 2010 and 10th July, 2010. The study targeted women who had given birth within the last six months. The data was collected with the help of four clinical officer students who were on attachment. The students had been trained on the filling a pre-tested questionnaire that contained social demographic data and information on HIV/AIDS and other STIs. The information on STIs was partly from the clinic card and also from the examinations carried out during the study period. The diagnosis was through syndromic approach which may at times not be very reliable. Counseling and testing for HIV was done for those who agreed to be tested and had not been tested before. In case of the HIV positive status an effort was made to reach the partner through the cooperation of the client.

Results

Table 1 shows the sociodemographic characteristics of the study population. The youngest woman was 17 years and the oldest 53 years with a mean age of 28 years. The proportion of women with secondary education and over was nearly equal to that with primary education. Although some women were not employed, most of those employed earned more than KShs. 4000 (USD45) monthly. The women with the

lowest living children had one and those with the highest had eight, with a mean of 4.4 living children. Nearly all women owned homes approximately two thirds of which were permanent.

Table 1: Sociodemographic characteristics

Demographics	No.	(%)
Age		
<21	27	13.1
21 – 24	47	22.8
25 – 29	53	25.7
30 – 34	35	17.0
>34	44	21.4
Marital status		
Single	13	6.3
Married	184	89.3
Separated/ Divorced/ Widowed	9	3.4
Education		
None	1	0.5
Primary	107	51.9
Secondary	74	35.9
Tertiary	24	11.7
Occupation		
No occupation	32	15.5
Daily wages	23	11.2
Farmer	66	32.0
Sales lady	45	21.9
Salaried	34	16.5
Students	6	2.9
Income (KShs)		
0 – 1000	26	12.6
1001 – 2000	31	15.0
2001 – 3000	30	14.6
3001 – 4000	14	6.8
>4000	105	51.0
Living children		
1 – 2	19	9.2
3 – 4	125	60.7
5 – 6	44	21.3
>6	18	8.8
Residence		
Self permanent	138	67.0
Self Semi-permanent	64	31.1
Rented permanent	4	1.9

*Kshs90= 1USD

Of the 206 clients, only 21(10%) knew of any association between sexually transmitted infections (STIs) and HIV/AIDS. Amongst the 206 women, 12 (5.7%) had had some form of STI within the previous 12 months. There were three cases of PID, four (1.9%) of syphilis, three (1.5%) of gonorrhoea and 2(1.0%) of undiagnosed genital ulcers. Table 2 shows the distribution

of the STIs within the sociodemographic groups. Although there was an apparent rise in STIs after 20 years of age and a fall after 29 years, this trend was not statistically significant ($\chi^2=3.4$; $df=4$; $p>0.3$). The STIs were significantly higher among the separated/divorced/widowed women compared to the other groups ($\chi^2=10.73$; $df=2$; $p<0.01$). There was a tendency for infection to decrease with increased level of education but this was not statistically significant ($\chi^2=0.418$; $df=3$; $p>0.9$). Although the results seemed to suggest that the infection rates were higher among those with daily wages and those with no occupation the findings were not statistically significant ($\chi^2=1.94$; $df=5$; $p>0.8$). The infection rate reduced with increasing income though not significantly ($\chi^2=1.73$, $df=4$, $p>0.7$). The number of living children did not seem to influence infection rates ($\chi^2=0.74$, $df=3$, $p>0.7$). The infection rates were uniform regardless of the nature of the residence and there was no significant

Table 2: STIs vs sociodemographic characteristics

Infected	Yes	No	Infected (%)
Age			
<21	26	1	3.7
21 – 24	43	4	8.5
25 – 29	48	5	9.4
30 – 34	33	2	5.7
>34	44	0	0
Marital status			
Single	13	2	15.4
Married	184	7	3.8
Separated/ Divorced/ Widowed	9	3	33.3
Education			
None	1	0	0
Primary	107	7	6.5
Secondary	74	4	5.4
Tertiary	24	1	4.2
Occupation			
No occupation	32	3	9.4
Daily wages	23	3	13.0
Farmer	66	2	3.0
Sales lady	45	3	6.7
Salaried	34	1	2.9
Students	6	0	0
Income (KShs)			
0 – 1000	26	3	11.5
1001 – 2000	31	3	9.6
2001 – 3000	30	2	6.7
3001 – 4000	14	0	0
>4000	105	4	3.8
Living children			
1 – 2	19	1	5.2
3 – 4	125	9	6.4
5 – 6	44	2	4.5
>6	18	0	0
Residence			
Self permanent	38	8	5.8
Self Semi-permanent	64	4	6.3
Rented permanent	4	0	0

statistical difference among the groups ($\chi^2=0.451$, $df=3$, $p>0.7$).

All the women except one (0.5%) had heard of AIDS. In response to prompted questions women indicated how HIV could be transmitted and only three (1.5%) did not know. Forty three (20.9%) clients did not know how partners could protect themselves against HIV/AIDS transmission. Out of the 206 clients, 183(88.8%) knew that HIV/AIDS could be transmitted from the mother to the child.

Table 3: Knowledge of mother to child transmission

Age	Know-ledgeable	Not knowledgeable	Knowle-dgeable (%)
<21	26	1	77.8
21 – 24	46	1	97.9
25 – 29	45	8	84.9
30 – 34	32	3	91.4
>34	39	5	88.6
Marital status			
Single	11	2	84.6
Married	168	16	91.3
Separated/ Divorced/ Widowed	5	4	55.6
Education			
Primary	90	17	84.1
Secondary	72	2	97.3
Tertiary	22	3	87.5
Living children			
1 – 2	18	1	94.7
3 – 4	120	5	96.0
5 – 6	37	7	84.1
>6	8	10	44.4

Although the age group 21- 24 years appeared most knowledgeable about MTCT, this was not statistically significant($\chi^2=2.15$; $df=4$; $p>0.7$). There was no particular distribution pattern. The married women were more knowledgeable than the rest ($\chi^2=7.66$; $df=2$; $p< 0.05$). Similarly women with secondary education were more informed about MTCT than those with either primary or tertiary education ($\chi^2=6.69$; $df=2$; $p<0.05$). The women with 3-4 living children had more knowledge than the other groups ($\chi^2=42$; $df=3$; $p<0.001$) but knowledge level decreased in women with more than four living children.

Various factors in transmission were cited and as Table 3 shows breastfeeding was referred to as the commonest risk factor. Of the 183 clients who knew about mother to child transmission, 150(82.0%) knew how transmission could be reduced. The knowledge on reduction of transmission by age was 16 (59.2%) for the under 21 years, 38 (80.1%) for 21-24 years, 37 (69.8%) for 25-29 years, 26 (74.3%) for 30-34 years

Table 4: Factors that increase transmission risk

Factors	Response frequency	Response (%)
Contamination through blood	11	5.3
Delivery at home	46	22.3
Breastfeeding	123	59.4
Through sex when the child is about to be born	2	1.0
Injuries to baby at birth	7	3.4
Blood transfusion	11	5.3
Early rupture of membranes	3	1.4
Invasive procedures	1	0.5
Mixed breastfeeding	3	1.4
Total responses	207	100

Table 5: Stated transmission prevention methods

Method	Frequency	Percentage
Avoid blood contamination or transfusion	4	1.9
Deliver in hospital	54	26.0
Stop breastfeeding	102	49.0
Bottle feeding	2	1.0
Have special care	2	1.0
Go for Caeserean delivery	11	5.3
Using condom	4	1.9
Visit clinic in time (ANC)	4	1.9
Use ARVs	11	5.3
Breastfeeding only	4	1.9
Abstain from sex	2	1.0
Go for regular check-up	4	1.9
Be assisted during delivery	4	1.9
Total	208	100

and 33 (75%) for the over 34 years. The general trend seemed to indicate an increase in knowledge with increased age but this was not statistically significant ($\chi^2=3.14$; $df=4$; $p>0.5$).

Clients with secondary school education were the most knowledgeable (54; 73.0%) followed by those with tertiary education (17; 71.0%) and then those with primary education (63; 58.9%). Although the level of education appeared directly proportional to the knowledge, this trend was, not statistically significant ($\chi^2=3.55$; $df=3$; $p>0.3$). As Table 5 shows stoppage of breastfeeding was the most cited as the best way in preventing transmission.

Of the 183 clients, 161(88%) would confidentially disclose results if they were negative. Table 6 shows the disclosure pattern with age, education and marital status. There was an initial rise in disclosure to the age-group 21-24 years then a uniform fall as age progressed. The variation in the disclosure pattern with age was statistically significant ($\chi^2=40.28$; $df=4$; $p<0.001$). The clients who had had secondary and tertiary education were virtually at par in disclosure ahead of those who had had primary education. Those who had had primary education had a statistically

significant lower level of disclosure ($\chi^2=29.59$; $df=2$; $p<0.001$). The clients who were separated/divorced/widowed were the least likely to disclose but the findings were not statistically significant ($\chi^2=1.94$; $df=2$; $p>0.3$). It was noteworthy that only 61(29.6%) of the clients would disclose their status if they were positive.

Table 6: Disclosure of status by age, education and marital status

Disclosure	Yes	No	Total	Disclosure Rate (%)
Age				
<21	14	13	27	51.9
21 – 24	44	3	47	93.6
25 – 29	46	7	53	86.8
30– 34	26	9	35	74.3
>34	31	13	44	70.5
Education				
None formal	0	0	1	0
Primary	67	40	107	62.6
Secondary	71	3	74	95.9
Tertiary	23	1	25	95.8
Marital status				
Single	10	3	13	76.9
Married	137	47	184	74.5
Separated/ Divorced/Widowed	4	5	9	44.4

The rest would not do so because of stigmatization and the fear of the partner.

Of the 206 clients, 137(66.5%) knew their status. The highest age group was 21-24 years (35, 74.4%) followed by 25-29 years (38, 71.6%), less than 21 years (18, 66.7%), over 34 years (17, 60.7%), 30-34 years (23, 65.7%) and above 34 years (6, 37.5%) in that order. The disclosure by age was statistically significant ($\chi^2=16.06$; $df=4$; $p<0.01$). The numbers for those with primary, secondary and tertiary education were 59 (55.1%), 57 (77.0%) and 21 (87.5%) respectively. This was also statistically significant ($\chi^2=11.7$; $df=2$; $p<0.01$). Eleven (84.6%) of the single women, 117 (63.6%) of the married women and all the separated, divorced and widowed women knew their status. This was statistically significant ($\chi^2=6.35$; $df=1$; $p<0.02$).

Out of the clients who knew their status 7 (5.1%) were HIV positive. One was in the age bracket 21-24 years, one in the age group 25- 29 years, three in the age group 30-34 years and two in the age group above 34 years. The infection in general seemed to increase with age except for the age group 30-34 years. Four of the clients had primary education, two had secondary education and one tertiary education. The infection pattern varied with education but with no clear direction. The infection was evenly distributed across the income groups except the KShs 0-1000 (USD 11) and KShs 3000-4000(USD 33-45) which had two clients each. Three of the seven HIV positive clients had had an STI in the last 12 months as well possibly confirming the known association between the two infections. Marital status seemed to influence the HIV infection in that out of the seven sero-positive clients, one was divorced and the other widowed. Only one client had disclosed her status to the partner who after being counseled and tested was found to be positive and both were on follow up. The rest had not done so because of stigma and the fear of the partner. After further counseling two partners agreed to be counseled and tested. Both male partners were found to be HIV positive and the two couples were recruited into the appropriate clinic for follow up and appropriate management.

Discussion

STIs are among the most important causes of maternal and infant morbidity and mortality. Studies have shown that the prevalence of STIs has continued to

rise in most countries (9). In a study among women in southern Mozambique, (10) indicated that at least one active STI was diagnosed in 79% of women. The figure in this study was higher than in earlier studies (11).

The prevalence of syphilis and gonorrhoea was higher than that found by Hawken *et al.* (12). The figures for syphilis were, however, similar to those found during the Kenya Aids Indicator Survey (KAIS) of 2007 (13). The STIs were higher among the separated, divorced or widowed women probably to the social than economic status. It has been shown that STIs synergistically increase susceptibility to HIV infection (14) and that the rapid identification and treatment of sexually transmitted infections is a key element in controlling the spread of HIV (15). There was an apparent association between STIs in that three of the clients with sexually transmitted infections were also HIV positive. It has been noticed that control of sexually transmitted infections may have also contributed to the gradual decline in HIV prevalence in several low and middle-income countries (16). The percentage of those who had heard about AIDS was virtually the same as that found among women aged 15-49 years in the 2008-2009 KDHS as was same as the level of knowledge on MTCT in general and in relationship to age, marital status and education was similar to that of the last survey (17). Most of the clients knew how perinatal transmission would occur which was slightly higher than the last survey (17). The crucial role played by education as an essential part of HIV prevention has been appreciated in Kenya by incorporating AIDS education in the primary and secondary school curricula (18). This could have contributed to the high level of knowledge about how perinatal transmission could be reduced. Breastfeeding was highlighted both as commonest mode of transmission and reduction. The knowledge that HIV can be transmitted by breastfeeding and that antiretroviral therapy can reduce transmission has increased considerably since 2003(19). The HIV prevalence rate in the study was much lower than that of the 2008- 2009 KDHS of 8% (18). The disclosure of the HIV-status by people living with HIV or AIDS is widely advocated as a means to prevent HIV transmission (20). While this is so disclosure could be a very traumatic experience when one is HIV positive and apparently that is why a much higher level of clients would disclose their status if negative than would if the level was positive. Gillett and Parr (20) found that although the women felt a sense of duty to inform others of their HIV status to prevent HIV transmission and to encourage sexual partners to be

tested there were multiple problems associated with disclosure. The study concurs with various other studies which have shown that all forms of stigma and discrimination, including violence, are rampant (18, 22-24). It has been shown that despite these problems some women would disclose because of the need for social support (25, 26). As WHO (16) rightly suggests activities used in support groups for people living with HIV may help HIV-positive women develop the confidence to share their status with others. Gillet and Parr(20) noted that support groups gave the women confidence and provided emotional support, which may have assisted them with coping with the negative outcomes of disclosure. The establishment by the government of the National Network of Post-Test Clubs (i.e. support groups), and a countrywide project to set up and strengthen existing HIV/AIDS support groups by African Medical and Research Foundation (AMREF) is set to reduce stigma (26, 27). The training module developed under the RH/HIV Integration Committee will also help healthcare providers deliver services in a non-stigmatizing and non-discriminatory manner (28). Among the strategies of achieving MDG 6 should be active involvement of male partners who are and will remain key players in this epidemic. That two males in this study agreed to be counseled and tested clearly indicates that it is possible to involve men without making them feel estranged. Peacock *et al* (29) noted that a rapidly expanding evidence base demonstrated that rigorously implemented initiatives targeting men can change social practices that affect the health of both sexes, particularly in the context of HIV and AIDS.

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