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Association Between Unplanned Pregnancy and HIV Seropositivity Disclosure to Marital/Cohabitating Partner Among Post-natal Women in Lusaka, Zambia

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ABSTRACT

Background: Disclosure of a positive HIV result to partner is an important step towards prevention of infection, early diagnosis and optimum care especially in the context of PMTCT. Little is known about the disclosure patterns of postnatal women in relation to planning status of index pregnancy. This study explored this aspect.

Objectives: To determine any association between unplanned pregnancy and HIV seropositivity disclosure to stable partner among postnatal women in Lusaka.

Design: Using a cross-sectional study design the disclosure patterns of 100 postnatal women with unplanned pregnancies were compared to a similar group of 100 women with planned pregnancies.

Results: The crude OR for disclosure of a positive HIV result to partner (planned pregnancy / unplanned pregnancy) was 1.839 (CI= 1.002-3.372). After adjusting for participant and partner's feelings after pregnancy discovery, partner's occupation, condom use in the relationship and length of stay with partner this OR was 2.835 (CI=0.690 -11.643). 66.7% of those that reported that their partners had worries, depression or sadness after disclosure had unplanned pregnancies whereas 83.3% of those that expressed no emotions had planned pregnancies.

Conclusions: Possibility of antenatal HIV seropositivity disclosure to partner is the same whether the pregnancy is planned or not. Unplanned pregnancy is associated with more negative reactions by partner after disclosure.

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INTRODUCTION

HIV and unplanned pregnancy are two common reproductive health problems that affect women. In sub Sahara Africa 59% of people living with HIV are women and worldwide two in every five pregnancies are unplanned[1,2]. HIV has no cure and therefore the best way to deal with it at the moment is prevention of infection. This is the basis for an antenatal HIV test so that preventive interventions can be applied to reduce the risk of vertical transmission. With the now universally accepted "opt out" policy very few women escape an antenatal HIV test, generally making women the first ones to be tested between partners. Women who test in this manner are then counseled to share their results with their partners. Disclosure of an HIV result has got other benefits beyond prevention of vertical transmission, like positive prevention, psychological and material support. Serostatus disclosure is also particularly important among serodiscordant couples who constitute 20% of couples living with HIV in Zambia [3.] A study by Dunkle et al 2008 showed that 55.1% - 92.7% of new heterosexually acquired HIV infections among adults in urban Zambia and Rwanda occurred within serodiscordant marital or cohabitating relationships. They further estimated that interventions among these couples could avert 35.7% - 60.3% of heterosexually transmitted HIV infections that would otherwise occur, thus the need for disclosure.[4]

There are several barriers to disclosure of a positive HIV result by women to their sexual partners. Among these barriers is fear of violence as a reaction by the partner, a feature which has also been found to be common among women with unwanted or mistimed pregnancies.[2] Furthermore women with unplanned pregnancies tend to poorly utilize antenatal facilities.[2] These findings suggest that women with unplanned pregnancies are probably less likely to disclose their positive HIV result compared to those with planned pregnancy . Despite this high HIV test uptake and the availability of vertical transmission preventive interventions, paediatric HIV is still very common especially in poor sub-Sahara African nations like Zambia. While the currently available preventive measures can reduce vertical transmission from 45% to less than 2%, it is unfortunate to note that 1000 children get newly infected each day and that 2 million children were living with HIV at the end of 2007.[7,8,9] While poverty could be the major reason for this high transmission rate serostatus non-disclosure possibly contributes significantly too.

Disclosure of a positive HIV test result

Rate of disclosure

Disclosure rates of an HIV positive result by pregnant women to their partners has been found to be varied in different studies. In a South African study the disclosure rate was found to be as high as 93.5%.[10] In a Tanzanian study the disclosure rate was found to be as low as 16.7% . [11] In Zambia in 2003 the disclosure rate was found to be 72% for both seropositive and seronegative patients among urban attendees whereas it was 49% among seropositive attendees as a separate group.[12] It is interesting to note that disclosure rates have been lower among women testing in the context of PMTCT than those going for VCT. [13]

Factors affecting HIV serostatus disclosure

HIV status disclosure to a sexual partner is an important prevention goal emphasized by WHO and CDC in their protocol for HIV testing and counseling. [14,15]

However there are a number of barriers to disclosure that have seen some studies reporting as low disclosure rates as 16.7%. [11]

The main barriers to disclosure have been noted to be fear of abandonment, rejection and discrimination, violence, upsetting family members, and accusation of infidelity.[16,17,18,19] Some studies have also determined predictors of serostatus disclosure as being young in age, that is less than 24years[18,20], being of low socio economic status , and being in a relationship for a longer period of time.[11] People on ART are more likely to disclose because most of them would have developed AIDS before starting the drugs and these patience receive continuous ongoing counseling.[21] Other factors that have been associated with a higher likelihood of disclosure are: being accompanied by another person to the testing site, being ill at the time of testing, and having discussed with another person to undertake the test.[21] Couple Voluntary Counseling and Testing(CVCT) has shown very promising results with regards to status disclosure. When couples are pre-and post-counseled together disclosure automatically becomes 100% and this has been associated with less negative outcomes of disclosure. [22] This has got significant PMTCT benefits in sero-discordancy with the female partner being negative; since some women individually tested could seroconvert and infect their babies during pregnancy. However CVCT has not been emphasized in most national guidelines. A study by De Rosa et al also showed that repeated counseling by multiple sources increased disclosure to sexual partners by HIV positive men.[23]

Outcomes of HIV serostatus disclosure

Disclosure of a positive HIV result has multiple benefits to the mother, her partner and the newborn baby. The primary aim of an antenatal HIV test is to prevent MTCT. Full implementation of the different methods of PMTCT, such as taking antiretroviral therapy, elective cesarean delivery, exclusive breast feeding and early weaning, and formula feeding, can not be achieved without the support of the spouse. Disclosure to at- risk partner gives that partner the opportunity to allow or not to allow unsafe sexual behaviours. Thus disclosure could be a pivotal factor in reducing the behaviours that continue the spread of HIV.[24] Serodiscordance is a common feature in Africa south of the Sahara. In a study in Zambia, a HIV-1 serodiscordance rate of 20% in a community survey involving 3500 couples was found.[3] A further study by Dunkle K et al in 2008 showed that

55.1-92.7% of new heterosexually acquired HIV infections among adults in urban Zambia and Rwanda occurred within serodiscordant marital or cohabiting relationships. [4] It is therefore a must that if HIV transmission is to be reduced within couples, serostatus disclosure is mandatory.

Even if both partners are infected, condom use is encouraged to prevent re-infection and this is difficult to implement without disclosing the HIV status. With the adoption of the 'opt out' policy for PMTCT most women are the first to be tested for HIV at antenatal clinics. When women disclose their positive status to their partners, these men are also likely to go for testing as well.[25]This results in early diagnosis and management of the partners too.

Women who fail to disclose their positive HIV result to their partners during ANC are comparatively at a higher risk of having an unplanned pregnancy in the subsequent pregnancy , putting their babies at higher risk of HIV infection.[26,27] Emotional support has been reported as a benefit of disclosure especially in couples staying away from relatives.[10] Further, it has been shown that disclosure to family and friends provides helpful links to social support which is important for patient adherence to medical regimens resulting in improved physical health.[18,28]

These are the medical benefits of serostatus disclosure. However disclosure has some negative social outcomes. Infact, HIV positive people weigh the possible positive and or the negative outcomes before deciding on whether to disclose or not. The common negative outcomes are violence, separation, blame, anger, disbelief and shock[25,29]. One review paper reported that these negative outcomes ranged from 4% to 28%.[30]The positive social outcomes are encouragement, kindness and understanding.[20]

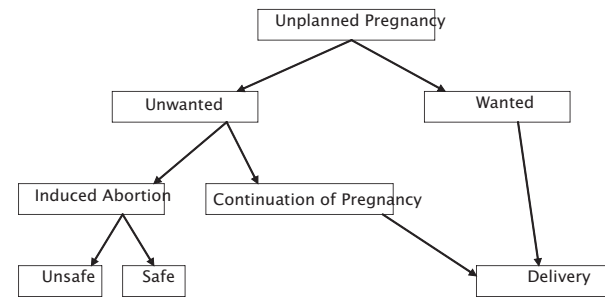
Unplanned pregnancy

Worldwide about 210 million women fall pregnant each year, 80 million of these pregnancies are unplanned. This means two in every five pregnancies are unplanned. Forty six million pregnancies are voluntarily terminated each year, nineteen million of which are done illegally using unsafe methods.[2] In Africa unsafe abortion mortality ratio is 100 per 100 000 live births which is the highest compared to other regions.[2] In Zambia it is 120 per 100 000 live births.[31]

There are multiple reasons for unplanned pregnancies, namely: non-use of contraception, improper use of contraception, unreliable methods of contraception , failure of contraception or rape. The unmet need for family planning in Zambia is 27.4% which clearly contributes to the high level of unplanned pregnancies.[31] Lack of knowledge on sexual and reproductive health is one important factor that contributes to unplanned pregnancies especially in teenage girls who are commonly left out in national contraceptive programmes.[2] In Zambia the adolescent fertility rate is 146 per 100 girls aged 15-19 years. [31] This is a very high figure and indicates the level of teenage pregnancies and hence the unplanned pregnancy rate in Zambia.

Outcome of unplanned pregnancies

The outcome of an unplanned pregnancy could be carrying on to delivery or induced termination of the pregnancy, which may be safe or unsafe as shown below:



Women who decide to continue with the pregnancy are known to underutilize antenatal facilities. The extent of this problem might actually be worse in a country like Zambia with only 72% of pregnant women attending the minimum required four antenatal visits .[3] Poor antenatal attendance is known to be associated with adverse pregnancy outcome.
Some pregnancies that continue would be a result of failed termination especially with use of unsafe methods. It is possible that some of the arbotificients used could be teratogenic. Women with planned pregnancies are likely to recognize early symptoms of pregnancy and thus start antenatal visits early, quit social habits that may be harmful to the unborn baby like smoking and alcohol intake. [32,33] Babies

born from unplanned pregnancies are known to be at risk of getting inadequate breastfeeding .[34,35] If the babies remain unwanted till delivery there is a risk of baby dumping or infanticide.

Impact of unplanned pregnancy on the women

With or without restrictive abortion laws unsafe abortions still take place because of the general stigmatization of induced abortion, or lack of knowledge about availability of safe abortion facilities.[2]Women who resort to unsafe abortion risk suffering a number of complications for example, uterine perforation, hemorrhage, vesico-vaginal fistulas ,genital tract mutilations , pelvic abscess , sepsis and even death. The complication rate is as high as 75% according to one study in Nigeria in 1992 -1994.[36]Twelve to thirteen percent of maternal deaths in Africa and Asia are due to unsafe abortions.[2]

Sahin and Sahin in 2003 showed that women who are abused during pregnancy are more likely to be having unplanned pregnancies.[37] Gazmararian J A et al also showed that women with unwanted or mistimed pregnancies are at an increased risk for violence by their partners compared to women with intended pregnancies.[38]

As has been noted disclosure of HIV serostatus can reduce anxiety and increase social support, expand awareness of risk to untested partners, increase opportunities for risk reduction, enable couples to make informed reproductive health choices and improve access to care and treatment programs.

There are however a number of potential barriers to serostatus disclosure which are mainly linked to the possible negative outcomes of disclosure like violence, separation and blame. On the other hand unplanned pregnancy results in several negative effects on both the mother and the baby. Of note is the fact that violence has been found to be more common among women with unplanned pregnancies and other studies have also shown violence as an important barrier to status disclosure. There could therefore be a possible association between unplanned pregnancy and serostatus non-disclosure.

A study of association of unplanned pregnancy and non disclosure has not been previously done in Zambia. This study explored this aspect.

METHODS

Study design

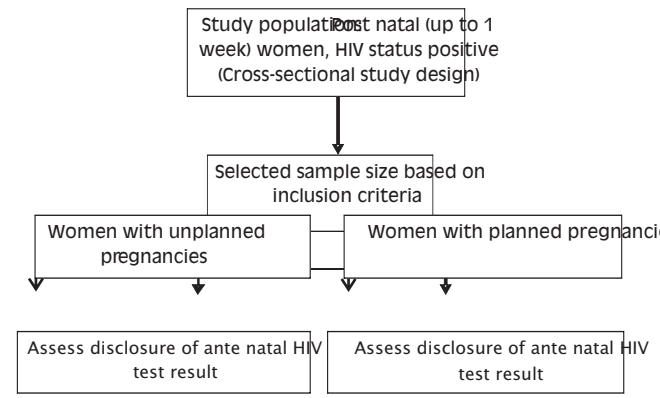
This was a cross-sectional study.

The target population were postnatal mothers up to one week post-delivery, who had undergone HIV counseling and testing for PMTCT with a recorded diagnosis.

The study population consisted of these women who fulfilled the eligibility criteria.

Data on disclosure of antenatal HIV test results was collected as part of the cross-sectional survey on HIV testing in pregnancy. Disclosure status of women found to be HIV positive and with planned pregnancy was compared with those with unplanned pregnancy who are also HIV positive.

Figure 1: Flow chart of study design



Study sites and recruitment

The study was hospital and clinic based. Patients were recruited from the post natal sections of the UTH and identified clinics (that is Chilenje, Chawama, Matero and Chelstone.).These four clinics were selected from the geographic four quadrants of Lusaka for being high volume patient clinics. The clientele of these clinics is an approximate representation of Lusaka's rich, middle level and poor mothers. Lusaka is a metropolitan

with no district hospital. All clinics refer to University Teaching Hospital using an electronic system called Zambia Electronic Perinatal Record System (ZEPRS).This means all centres offering obstetric care are interconnected in this way.
Post natal women within one week post delivery were eligible for recruitment. These women were HIV positive; having been diagnosed during antenatal period. Verification of the antenatal diagnosis was done using the ZEPRS. The study informed consent sheet was provided, and clearly explained by the research assistants. Those willing to participate in the study signed two copies of the informed consent form; one to remain in the study records, and the other was given to the participant. The participant was then be subjected to a short interviewer administered questionnaire in a private room or area.

Inclusion criteria
Post natal women from delivery up to one week were eligible for recruitment

HIV status not known before index pregnancy.

HIV positive women tested during antenatal investigations.

Informed consent provided.

Exclusion criteria

Post natal women who had prior knowledge of their HIV status before index pregnancy.

Very sick women

Patients with clear HIV related conditions.

RESULTS

In this study there were 210 participants, 105 with unplanned pregnancies and the other 105 with planned pregnancies. At analysis 10 participants were excluded due to incomplete critical data leaving 100 participants with planned pregnancies and the other 100 participants with unplanned pregnancy. This exclusion is unlikely to affect our analysis since this is within the 5% allowance granted during sample size calculation.

The ages of these participants ranged from 14 to 44 years with a mean age of 27. 88 years.

The women's educational status ranged from no education to tertiary education. Sixty eight (34.0%) had either no education or education up to primary school, 108 (54.0%) had secondary school education and only 24 (12.0%) had tertiary education. Educational level of these women's partners was as follows: 55 (27.5%) had no education or education up to primary school, 111 (55.5%) had secondary education where as 34(17.0%) had tertiary education. The majority [144 (72.0%)] of the participants were housewives with only 15 (7.5%) of these women being in formal employment. Twenty four were doing business whilst 17 (8.5%) were doing other informal income generating activities. The majority (111 (55.5%) of these women's partners were formally employed whilst 50 (25.0%) were doing business. Only 12 (6.0%) were unemployed whilst 27(13.5%) were doing informal income generating activities.

The majority [126 (63.0%)] of these women had less than K 1 Million as their monthly house hold income. The remaining 58 (29.0%) were earning between K I Million – K 2.5 Million and only 16 (8.0%) were earning more than K2.5Million per month.

One hundred and sixty four (82%) had lived with their partners for more than one year and the remaining 36 (18%) had lived with their partners for less than 1 year.

13 (13%) of the women with unplanned pregnancies booked their pregnancies in the first trimester, whilst 71 (71%) booked in the second trimester and remaining 16 (16%) booked in the third trimester. For those who had planned pregnancies 18 (18%) , 71 (71%) and 11 (11%) booked in the first, second and third trimester respectively. There was no difference in the weeks at booking between the two groups (P=0.421). As an average of the two groups 15.5% booked within the first trimester whilst 71% and 13.5% booked in the second and third trimester respectively.

Table 1: BIVARIATE ANALYSIS

Characte ristic		Disclosed	Not Disclosed	p Value
Planning pregnancy				
Planned		75 (75%)	25(25%)	0.049
Unplanned		62 (62%)	38 (38%)	
Age	**< 18years**	3 (2.2%)	3 (4.8%)	
	18 – 35years	124(90.5%)	59 (93.7%)	0.169
	> 35 years	10 (7.3%)	1 (1.6%)	
Parity	1	20(14.6%)	17(27.0%)	0.120
	2-4	102(74.4%)	40(63.5%)	
	>4	15(11.0%)	6(9.5%)	
Education level				
No education/primary school		42 (30.7%)	26 (41.3%)	0.280
Secondary school		79 (57.7%)	29(46.0%)	
Tertiary Education		16 (11.7%)	8(12.7%)	
Partner's Education level				
No education /Primary School		33 (24.1%)	22 (34.9%)	0.153
Secondary School		77(56.2%)	34 (54.0%)	
Tertiary Education		27 (19.7%)	7 (11.1%)	
Occupation	Housewife	102 (74.5%)	42 (66.7%)	
	Formal Employment	10(7.3%)	5 (7.9%)	
	Business	18(13.1%)	6 (9.5%)	0.081
	Other (Informal)	7 (5.1%)	10 (15.9%)	
Partner's Occupation				
Unemployed		4 (2.9%)	8 (12.7%)	0.007
Formal employment		72 (52.6%)	39 (61.9%)	
Businessman		41 (29.9%)	9(14.3%)	
Other (Informal)		20 (14.6%)	7 (11.1%)	
Length of Stay with Partner				
	< 1 year	18 (13.1%)	18 (28 .6%)	P= 0.008
	>1 year	119(86.9%)	45 (71.4%)	
Household Income				
<K250,000		25(18.2%)	14 (22.2%)	0.261
K250,000 - K999,999		65 (47.4%)	22(34.9%)	
K 1m – K2,5m		35 (25.5%)	23(36.5%)	
>K 2.5M		12 (8.8%)	4 (6.3%)	

In the unplanned pregnancy group, 35 (35%) of the women attributed their unplanned pregnancy to non-use of contraception, another 35 (35%) to inconsistent use of contraception, 24 (24%) failed contraception and 6 (6%) reported to had been raped by their partners whilst not on contraception.

Of the 200 participants 159 (79.5%) disclosed their HIV result to someone whereas the remaining 41 (20.5%) did not disclose to anyone. One hundred and thirty seven (85.7%) of those who disclosed, disclosed to partner only or partner and significant others(that is relatives, friends, church members, and employers) whilst the remaining 22(14.4%)

disclosed only to significant others but not partners. Sixty two (62.0%) of the participants with unplanned pregnancies disclosed to their partners whereas 75(75.0%) of those with planned pregnancies did so. The combined disclosure rate was 68.5%.

Fifty one of the 63 participants who did not disclose their HIV status to their partners gave reasons for not disclosing. These reasons are mainly fear of negative outcome namely fear of violence, infidelity accusation, separation or rejection. A small percentage (3.3%) thought it was just not important to disclose their status to partners.

Of the 137 women who disclosed their HIV results to partners 128 responded to the question on time taken to disclose. For those with unplanned pregnancies 45(77.5%) disclosed within a week whilst 4 (6.9%) disclosed after one week but within a month and the remaining 9(15.5%) did so more than a month after testing. For those who had planned pregnancy 45(64.3%) disclosed within a week, 9(12.9%) after a week but within a month and the remaining 16(22.9%) did so after one month. There was no significant difference between the two groups in terms of time taken to disclose (Chi Square X^2 = 2.783, p=0.249). As an average of these women 70.3% disclosed within one week whereas 10.2% and 19.5% disclosed after one week but within a month and after one month respectively.

One hundred and thirty seven women disclosed their HIV result to their partners. One hundred and thirty four of these responded to the question on partner's reaction to disclosure. Thirty one (23.5%) of these reported that their partners were either worried, depressed or sad. Four (3.0%) were violent whilst 6 (4.5%) were accusatory. Forty two (31.3%) expressed no emotions. The remaining 51 (38.1%) had a mixture of feelings including feelings of guilt.

The majority [21 (67.7% 3)] of those that reported worry, depression and sadness had unplanned pregnancies. All the 4 who reacted violently had unplanned pregnancies too. Thirty five (83.3%) of those that expressed no emotion had planned pregnancies.

Ninety eight (73.1%) reported that their relationship remained the same after disclosure whereas 27 (20.1%) reported that their relationship got better and the remaining 9(6.7%) said that their relationship got worse.

After HIV testing condom use was significantly more amongst those that disclosed compared to those that did not disclose. (Chi –Square (X 2) = 50. 48, p<0. 001). Only 16.3% of the study population used condoms at all times, whilst the remaining 84.7% either used the condom at times or not at all, as shown in table 3

One hundred and eighty eight (94.0%) took antiretroviral drugs for PMTCT or for both PMTCT and self treatment. The 12 (6.0%) who did not taking ARVs gave reasons for not doing so. These reasons were that they were not advised to do so, they thought it was not necessary, they were just not ready and they did not want people to know that they were HIV positive. All the 200 babies got some ARVs after delivery.

By the first week postnatal 37 (18.5%) of the women were not taking ARV but they were breastfeeding their babies.

All the 63 women who did not disclose their status to their partners were breastfeeding their babies whereas those that disclosed 129 (94.2%) were breastfeeding.

Those that disclosed their status to their partners said they did so so that they could practice safe sex, get support or that their partners go for testing as well. Thirty seven (18.5%) of these women, reported that their pregnancies had strained their relationship whereas 163 (81.5%) reported no strain in their relationship. Those that had strained relationships were less likely to disclose their status to their partners when compared to those who did not have a strained relationship. Seventeen (45.9%) women of the 37 who had strained relationships did not disclose whereas 46 (28.2%) of those who did not have a strained relationship did not disclose. (Chi square x 2 = 4.39, p= 0.036)

Significantly more women with unplanned pregnancies reported that their pregnancies had strained their relationships. (25.0% versus 12.0%, p= 0. 018)

Participants with unplanned pregnancies had reported more negative feelings from partner about the pregnancy when compared to those with planned pregnancies. (36.0% versus 3.0%, P< 0.001)

Table 2: Factors likely to affect disclosure to partner of a positive antenatal HIV result

Factor	OR	p>/z/	Adjusted OR (95% CI)
Plann ed / Unplanned	1.83871	0.049	
Partner's Occupation			
Unemployed	1 (ref)		
Formal employment	2.870693	0.110	1.895318
Businessman	7.86317	0.028	(0.9926043 -3.618997)
Other	5.294225	0.028	
Length of stay with partner			
Up to 1year	1 (ref)		2.074178
>1 year	2.5 969	0.018	(1.067102 - 4.031681)
Condom use in the relationship			
Always			
Sometimes	1 (ref)		
Not at all	0.1612922	0.111	2.0644478
	0.019765	0.000	(0.09394358 -4.536703)
Participant's feeling after discovering the pregnancy :			
Sad/ worried/ depressed	1 (ref)		3.661072
Happy	1.382279	0.595	(0.9394358 -13.41098)
Indifferent	0.019765	0.243	
Feeling of partner after discovering pregnancy			
sad/ worried/ Depressed	1 (ref)		
Happy	2.045613	0.271	2.834875
Indifferent	0.9172624	0.951	(0.6902723 -11.64253)

Factors that are likely to affect disclosure of HIV Status were identified using univariate analysis. These factors were then used in the final multivariate logistic regression model. The crude OR (Planned / Unplanned) was 1.839 (CI 1.002 – 3. 372). After adjusting for these confounding factors the OR came to 2. 835 (CI 0. 690 – 11. 643).

DISCUSSIONS

This study aimed to investigate the association between unplanned pregnancy and antenatal HIV seropositivity disclosure to partner. It also explored the reasons for unplanned pregnancies within stable couples, the barriers to HIV seropositivity disclosure and the outcomes of disclosure.

In this study all the participants were HIV seropositive and the average disclosure rate to partner of the two groups (i.e. those with planned and unplanned pregnancies) was 68.5%.There was no significant difference in the disclosure rates between women with unplanned pregnancies when compared to those with planned pregnancies. However those who had unplanned pregnancies reported more negative outcomes of disclosure.

The disclosure rate has increased from the 49.0% reported by Rutenberg among Lusaka antenatal clinic attendees in 2003.[12] This increase can be explained by the improved education on HIV among these women and the availability of treatment options for PMTCT and self treatment.

Women who had planned pregnancies were more likely to disclose their status to their partners (OR= 1.839, CI= 1.002-3.372,p=0.049) but after adjusting for confounding factors there was no significant difference between those with planned pregnancy and those with unplanned pregnancy. (OR=2.835, CI=0.690-11.643, p=0.148).

Women with unplanned pregnancies were more likely to report worry, depression, sadness, and

violence of partner after disclosure, whereas those with planned pregnancies were more likely to report no emotions (83.3%). This is probably a result of the fact that those with unplanned pregnancies were more likely to have a strained relationship as a result of the unplanned pregnancy.

Seven and half percent reported negative outcome of disclosure in the form of violence or accusations. This is consistent with that reported by Medley A et al in their meta-analysis when they found out that negative outcomes of disclosure ranged from 4-28%.[30]

The purposes of an antenatal HIV test are early diagnosis of the pregnant woman, prevention of transmission to the baby and prevention of infection to partner in serodiscordant couples or early diagnosis of infected partner. The current WHO recommendation is that ARVs for PMTCT should be started at 14 weeks gestational age. The drugs are initiated after the woman has been booked , tested and worked up. Optimum PMTCT care is unlikely to be provided since only 15.5% book within the first trimester. This delay in booking coupled with delay in disclosure of HIV status may result in delay in preventive interventions. Scaling- up of counseling on the need of early booking is imperative if paediatric HIV is to be reduced. Couple counseling and testing for HIV which guarantees early and high disclosure rates should be encouraged. Antiretroviral drug uptake for PMTCT by the mothers and babies is high, 94.0% and 100% respectively. However the gains of these interventions are probably compromised during breastfeeding period since 18.5% of those who opt to breastfeed stop taking ARVs within the first week postnatally. However the high exclusive breastfeeding rate is in keeping with the WHO feeding recommendation for resource limited communities.

HIV status disclosure is an important prevention goal.[14,15] Both serocordant and serodiscordant couples are encouraged to use condoms to prevent re-infection or new infection. The latter is particularly important in Zambia where 20% of the couples living with HIV are discordant.[3]Condom use after HIV test was poor among participants. Only 16.3% used the condom consistently at all times, 38.8% used it sometimes and as much as 44.9% not using condoms at all. Condom use was even poorer among those that did not disclose their status. Of these women 1.7% used the condom at all times, whilst 83.1% did not use it at all. These findings emphasize the need to intensify counseling on disclosure and correct and consistent use of condoms among HIV positive couples.

Six (6.0%) of the 100 women with unplanned pregnancies reported that their pregnancies were a result of sexual abuse by their partners when they were not on contraception. Whilst this figure is comparable to the 8.0% reported by Russell in 1990 in San Francisco, the problem of sexual abuse within stable couples could be much higher in Zambia.[39] The reported 6.0% could only be a tip of an ice-berg since this is only a proportion of those sexually abused who developed a complication, which is pregnancy. These women are, however likely to suffer in silence for a long time in Zambia because of the social and legal barriers to reporting such acts.

Thirty-five percent of women who had unplanned pregnancies were not on any contraception. This is comparable to the 27.4% unmet contraceptive need reported by WHO for Zambia.[31]Thirty-five percent of women with unplanned pregnancies reported inconsistent use of contraception whereas 24% reported failed contraception. These findings express the need to expand family planning services and to educate women more on family planning to improve knowledge and correct use of contraceptive methods.

The reasons for not disclosing a positive HIV result to partner were reported as fear of negative outcomes like violence, separation accusation of infidelity, rejection and discrimination. These are similar to disclosure barriers reported by other studies.[16,17,18,19]

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