PREVALENCE AND FACTORS AFFECTING HIV SEROSTATUS DISCLOSURE AMONG PREGNANT WOMEN RECEIVING PMTCT SERVICES IN DAR ES SALAAM

BY

ANNETTE ALMEIDA NDAYANGA, MD

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CERTIFICATION

The undersigned certifies that he has read and hereby recommend for acceptance by the University of Dar Es Salaam the dissertation entitled: "**Prevalence and factors affecting HIV serostatus disclosure among pregnant women receiving PMTCT services in Dar es salaam, Tanzania**" in partial fulfillment of the requirements for the degree of Masters of Public Health.

SUPERVISOR'S SIGNATURE: ----------

Prof. Japhet Z. J. Killewo (M.B.Ch.B, D.P.H, M.Sc, PhD)

Date ---------- 30 October 2005 ----------

DECLARATION

I, Annette Almeida hereby solemnly declare that this dissertation is my original work and has not been accepted for any diploma or degree in any other university.

Candidate's signature: ---------- A.Almeida ----------

Date ---------- 30/10/2005 ----------

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DEDICATION

I dedicate this work to my. parents, the late Mr. Peter Lawrence Almeida and Mrs.Leonilda Philomena Almeida who provided me with a good education foundation, which brought me to where I am today, my husband Dr.Protas Oscar whose moral support was vital for me to accomplish this work, and my son Reuben Peter.

ABSTRACT

HIV serostatus disclosure in a pregnant woman has to be regarded as a special issue due to the fact that this woman will need to access additional resources and psychological support from her spouse and family in order to succeed with plans in prevention of mother-to-child transmission.

Knowing one's HIV status is one of the most powerful motivators of behavior change. Most people who know their HIV status take appropriate steps to protect themselves as well as their partners. The low rates of HIV serostatus disclosure reported among women in ANC settings have several implications for PMTCT programmes as the optimal uptake and adherence to such programmes is difficult for women whose partners are either unaware or not supportive of their participation. So far, most studies carried out to determine the extent of serostatus disclosure have been done either in VCT settings or among HIV positive women only. Thus, the need to carry out this study that involving both HIV negative and HIV positive pregnant mothers was critical.

The importance of involving partner and significant others has increased as we move from PMTCT to PMTCT–plus and therefore there is need to study obstacles towards disclosure in order to develop appropriate interventions that would increase disclosure. Hence, a cross sectional study was conducted among 437 pregnant mothers attending ANC clinics at Government hospitals in Dar es Salaam, Tanzania to examine the

prevalence and factors affecting HIV serostatus disclosure among pregnant women receiving PMTCT services.

Pregnant women attending ANC at Muhimbili National Hospital, Amana, Mwananyamala and Temeke municipal hospitals who had accepted VCT and their test results were interviewed between May-September 2005 to obtain socio-demographic, reproductive health characteristics and other behavioral characteristics after an informed verbal consent. Ethical clearance was obtained from the ethical committee of Muhimbili University College of Health Sciences. Data were entered using EPI Info version 6.04 and analyzed using SPSS version 10.0 for windows.

The overall prevalence of serostatus disclosure among study clients was found to be 86%, being 94.3% among seronegative women and 64.5% among seropositive women. Respondents' religion was also highly associated with HIV status disclosure being statistically significantly higher among Christians compared to Muslims However, none of the reproductive health characteristics were significantly associated with HIV status disclosure after controlling for the effect of the other variables studied.

The findings from this study may be helpful in overcoming barriers to disclosure in the implementation of PMTCT-plus interventions through couple counseling, increased male involvement in the process and the assurance of ongoing psychosocial support to meet the needs of women who choose to disclose.

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CHAPTER ONE

1.0 Background

More than 40 million people worldwide are infected with Human Immunodeficiency Virus (HIV)-far more than epidemiologists predicted a decade ago-and the epidemic shows few signs of slowing down [UNAIDS/WHO, December 2003]. In sub-Saharan Africa, where one in three adults is living with HIV/AIDS, in some countries infection rates continue to rise beyond levels previously thought possible.

In Tanzania HIV Sentinel Surveillance (HSS) from 2002 found an overall prevalence of 9.6%. The Joint United Nations Programmes on HIV/AIDS (UNAIDS) estimated that 1.6 million Tanzanians were living with HIV/AIDS at the end of 2003; of them, 1.5 million were adults with adult prevalence of 8.8%. Women comprised 56% of Tanzanian adults with HIV/AIDS. Of 800,000 women who delivered in health care facilities nationwide during the year 2000, 106,400 (13.3%) were infected with HIV. [Garbus L, 2004].

Vertical transmission of HIV from Mother to Child is considerable in Tanzania. In 1996, it accounted for about 4% of all reported AIDS cases. The problem seems to be on the rise as more women continue to become infected and pregnant. Data from sentinel surveys in ANC (Antenatal Care) shows sero-prevalence rates ranging from 5.5% to 23%, and assuming a 30% prenatal transmission rate, the proportion of newborns expected to be infected can reach 7 percent [Tanzania National Website, May 2005].

The prevention and control of HIV infection depends on the success of strategies to prevent new infections and to treat currently infected individuals. Voluntary HIV testing and counseling (VCT) serves both goals. HIV testing and counseling provides essential knowledge and support for individuals to remain uninfected and those infected to plan for the future and prevent HIV transmission to others [Allen S et al, 1992].

According to UNAIDS, two thirds of the 45 million new HIV infections that are projected to occur between now and 2010 could be averted if any proven prevention strategies, used in combination are dramatically scaled up [UNAIDS, Dec2002].

Disclosure is a neutral term that refers to the act of informing any individual or organization (e.g. health authority, employer, school) of the HIV status of an infected person or to the fact that such information has been transmitted, by any means, by the person him/herself, or by a third party with or without consent. Disclosure may be beneficial disclosure, which is often for prevention purposes, or harmful that may lead to discrimination, loss of job, housing or family.

HIV serostatus disclosure enables HIV infected individuals to access care and support from spouse, family and the community in general. In addition, it may lead to improved access to HIV prevention and treatment programmes, increased opportunities for risk reduction and increased opportunities to plan for the future. Despite the fact that

serostatus disclosure offers a number of important benefits to the individual, it also has benefits to the community.

Disclosure of HIV status to sexual partner is an important prevention goal which has been emphasized by World Health Organization (WHO) [UNAIDS 2002] and Centers for Disease Control and Prevention (CDC) [Morbidity and Mortality Weekly Report 2002] in their protocols for HIV testing and counseling. Disclosure of HIV test results to partners was found to be associated with less anxiety and increased social support among many women [Mathews C et al, 1999], it also expands the awareness of HIV risk to untested partners, which lead to greater uptake of voluntary HIV testing and counseling and changes in HIV behavior [Mathews C et al, 1999; Allen S et al, 1992; Allen S et al, 1993].

Further more HIV infected women who know their serostatus are in a better position to make informed choices about their reproductive lives and if pregnant to access specific interventions, such as anti-retroviral (ARV) prophylaxis, infant feeding counseling and support which can significantly reduce the risk of Mother to Child Transmission (MTCT) of HIV. At present the majority of HIV infected individuals are unaware of the services they need.

Most people newly diagnosed with HIV need somebody in whom they can confide, usually a close relative or friend. Patterns of disclosure appear to differ according to sex

and/or ethnic or racial background of the discloser. Women are more likely to disclose to their partners than are men. In Africa, disclosure is usually restricted to family members or partners. Most choose a significant other of the same sex to disclose to, usually being a close family member of the same generation. Most men also tell their mothers. In Africa studies have revealed that most married people do not inform their partner after a positive diagnosis. This obviously has serious implications for serodiscordant couples. Studies also indicate that most African women believe that they have a right to know the HIV status of their partners.

Women who are tested for HIV during pregnancy and found to be positive then face the difficult decision of whether or not to tell their partner about their status. As a result of this dilemma, about 30% of African women tested during pregnancy do not return for their results. HIV positive women are less likely to return, this is partly due to fear of discrimination from the health sector but it may also be a way of choosing not to take on the responsibility of the burden of the HIV. If they know their status, they are faced with dilemma of telling or not telling their partners. Most women want to disclose their status but fear their partner's reaction that they often assume will be one of violence, abandonment or divorce.

Serostatus disclosure is potentially more catastrophic for women and their fears may be well founded. Disclosure for women can have more serious consequences than for the men. Women disproportionately face discrimination in the form of increased rejection

and violence. Recent documentation of AIDS related discrimination conducted by the Asia Pacific Network of People Living with HIV/AIDS (APN+) in four Asian countries indicate that women are likely to experience significantly greater levels of discrimination than men from both the family and community. Furthermore in Africa, there is low availability of ARV drugs, so for most women, there may be little or nothing to be gained by disclosing to their partners. Disclosure therefore must balance the benefits against losses.

1.1 Problem Statement

Receiving a diagnosis of HIV infection is likely to have a major impact in the life of any individual, particularly when that individual is a pregnant woman. Women who are tested for HIV during pregnancy and found to be positive then face the difficult decision of whether or not to inform their partners/significant others about their serostatus.

Ethical issues on one-hand and moral obligations on the other hand, challenge health care providers when they attend to a pregnant woman who is HIV positive and whose partner is unaware of her serostatus. In a study conducted on Prevention of Mother to Child Transmission (PMTCT) among pregnant women in Dar es salaam, Tanzania, it was found that 47.2% (25/53) couples were discordant for HIV infection indicating that there is a great potential for preventing further spread through disclosure [Lipyoga R et al, 2004].

The reported rates of disclosure in developing countries ranges from 16.7% to 86% with women attending free standing voluntary HIV testing and counselling clinics more likely to disclose their HIV serostatus to their sexual partners then women who are tested in the context of their ANC. Barriers to disclosure identified by women included fear of accusations of infidelity, abandonment, discrimination and violence. The low rates of HIV serostatus disclosure reported among women in ANC setting has several implications for PMTCT programmes as the optimal uptake and adherence to such programmes is difficult for women whose partners are either unaware or not supportive of their participation. So far most studies carried out to determine the extent of serostatus disclosure have been done so either in VCT settings or involving HIV positive women only. Thus there is need to carry out this study that will involve both HIV negative and HIV positive pregnant mothers.

Most women want to disclose, but it is difficult. Only 16.7% of enrolled HIV positive women in the Petra trial (a mother to child HIV-1 transmission intervention trial using antiretroviral therapy) in Tanzania disclosed their positive serostatus to their sexual partners [Kilewo C et al, 2001].

Prevention intervention will be even more potent if it is closely coordinated with treatment, care and support programs. Seizing the emerging opportunity to craft for the first time an integrated response to HIV/AIDS will require rapid, well-coordinated and simultaneous scaling up of prevention, care and treatment programs.

Opportunities to forge a comprehensive approach to HIV/AIDS will likely become more numerous, as a result of sharp declines in drug prices and increased donor support for treatment initiatives as experience in industrialized countries has shown, however failure to combine prevention with enhanced treatment access may actually lead to an increase in risk behavior and thereby making it more difficult to curb the spread of the virus.

Prevention interventions should focus on specific relationships and contents in which serostatus disclosure is most likely to affect behavior. Further analysis of sexual risk, HIV- positive status and disclosure among HIV positive persons has the potential to make such interventions more effective [Ciccarone DH et al, 2003].

1.2 Literature Review

Stigma is particularly strong, surrounding MTCT. The very phrase MTCT itself may stigmatize as it puts all the responsibilities on the mother and none on the father of the baby. Stigma is said to stop women from coming forward to get tested and may reduce their choices of health care and family life and has a negative effect on their quality of life [Lucian, 2003]. It has been reported that in developing countries only one percent of pregnant women have access to treatment to prevent MTCT [UNAIDS 2002].

Rates of disclosure in developing countries range from 16.7% to 86% with women attending free VCT clinics being more likely to disclose their HIV serostatus to their

sexual partners than women who were tested in the context of their antenatal care [Medley. A et al, 2004].

Between 3.5% and 14.6% of HIV positive women have been reported to experience a violent reaction from a partner following infection status disclosure. Reasons for non-disclosure included wanting to protect others from distress. In addition, fear of discrimination has been identified as the main barrier for women not to disclose their HIV serostatus [Petrak JA et al, 2001].

Majority of the HIV infected patients disclose to their partners and family members, very few disclose to their casual sex partners [O'Brien ME et al, 2003]. One study found self-disclosure of HIV serostatus rates to be highest for partners, followed by friends, and lowest for family members [Petrak JA et al, 2001]. Older age was also found to be associated with increased serostatus disclosure [O'Brien M E, et al 2003].

Among HIV positive men who reported not using condoms during sexual intercourse, 23% of them had not disclosed their HIV serostatus [Niccolai L et al, 1999]. In Tanzania about 52% of HIV positive women reported declining to disclosure of their serostatus for fear of partner's reaction. However, less than 5 % of women reported any negative reaction following disclosure [Maman S et al, 2003]. In Kilewo's study in Tanzania, 46.4% of women who did not disclose their HIV serostatus to their partners reported that fear of discrimination and divorce were major barriers to disclosure, but 91.7% of

women who did disclose their results reported that their relationship continued afterwards [Kilewo C et al 2001]. Heyward found a similar trend in Kinshasa: 63% of women who did not disclose their HIV status reported fear of divorce as the major barrier, yet 12 months after disclosure, no woman in the study reported divorce or separation [Heyward W et al, 1993].

Rates of serostatus disclosure have been found to be more in HIV seronegative than HIV seropositive. A study conducted in Dar es salaam, Tanzania found that 64% of HIV positive women and 79.5% of HIV negative women reported to have shared HIV test results with their partners [Maman S et al, 2003]. Some studies revealed that males were more likely than females not to disclose and that those having more than 2 sex partners were more likely to have not disclosed their HIV serostatus than those having fewer sex partners [Olley BO et al, 2004]. Women who reported fewer sexual partners and who personally knew someone with HIV/AIDS were also more likely to disclose their HIV serostatus [Gaillard P et al, 2000]. Other studies reviewed used multivariate analysis to determine predictors of disclosure. Nebbie found that women of lower socioeconomic status had a higher disclosure rate than women of higher socio-economic status [Nebbie Y et al, 2001]. Another study found that women who had been in a relationship for a more than two years were more likely to disclose than women who had been in a relationship for a shorter duration [Gaillard et al, 2000]. Issiaka and colleagues found that women with a higher level of education were more likely to share their results with their partners than women who were illiterate [Issiaka S et al, 2001].

1.3 Rationale.

HIV serostatus disclosure in pregnant women is a voluntary action that requires full support of partners and families to enable the mother to access additional resources available at ANC clinics that provide PMTCT services in order to prevent further infection plan the mode of delivery and initiate infant feeding.

Knowledge of one's HIV status is the most powerful tool of behavior change. Most people who know they are HIV positive take appropriate steps to protect their partners [CDC June 26, 2003]. Although it may not be sufficient to change behavior due to a number of barriers, pregnant women have the opportunity to know their HIV serostatus and to have access to PMTCT services. However, those found to be HIV positive have the additional danger of infecting their unborn child if they do not access PMTCT services for fear to disclose their HIV serostatus to spouses and significant others.

As PMTCT programs move towards PMTCT-plus, it is important to study reasons for non disclosure in order to develop appropriate interventions for involving significant others.

1.4.0 Study Hypothesis

1.4.1 A substantial number of pregnant women attending VCT services in PMTCT do not disclose their HIV positive serostatus while those who disclose their HIV positive serostatus do not receive negative reactions.

CHAPTER TWO

2.0 Study Objectives

2.1 Broad Objectives.

To explore the factors that affect HIV serostatus disclosure among pregnant women accessing PMTCT services in Dar es Salaam.

2.2 Specific Objectives.

2.2.1 To determine the prevalence of HIV serostatus disclosure among pregnant women undergoing VCT and receiving their test results.

2.2.2 To explore different reactions from sexual partners following HIV serostatus disclosure.

2.2.3 To determine the proportion of women whose partners have been tested for HIV preceding or following woman's test date.

2.2.4 To explore the perceptions of stigma among pregnant women undergoing VCT and receiving test results.

CHAPTER THREE

3.0 Methodology.

3.1 Study Area.

This study was conducted in Dar es Salaam city that is the largest city in Tanzania and the main business centre in the country. It is situated at the eastern coast of the country along the Indian Ocean, bordered by the Coastal Region on the west, north, and south.

Dar es Salaam is the second largest harbor along the eastern border of the Indian Ocean, after Durban in South Africa. The city has a modern airport in the country, but can also be accessed through roads, railways and the Indian Ocean.

Dar es Salaam has a population around 2.5 million (census 2002) consisting of a mixture of people from different tribes but also many Tanzanians of Indian and Arabic origin as well as other foreigners who reside in Dar es Salaam. This makes the city dynamic with mixed cultures, many unemployed people, and a high rate of crime as well as prostitution. Dar es Salaam, therefore, is one of the hardest hit regions by HIV/AIDS in the country.

The prevalence of HIV infection among blood donors in Dar es Salaam in 2001 was estimated at 18.8% with a case rate in Dar es Salaam being 122/100,000 population. This was the second highest rate in the country following Mbeya region (156/100,000) [Ministry of Health GoT report of NACP, 2001].

The health care delivery system in Dar es Salaam comprises of popular, professional and folk sectors. The professional health care is divided into government and private facilities. Among Government facilities that offer PMTCT services are the National Hospital (Muhimbili), Municipal Hospitals (Temeke, Amana, and Mwananyamala), Health Centers (Sinza, Magomeni, Kigamboni, Buguruni, Mnazimoja) and Dispensaries (Mbagala Roundtable, Mbagala Rangi tatu, Kasorobo, Mtoni MCH Mburahati, Kimara, Tandale, Oyster Bay Police, Kawe, Lugalo, Vingunguti and Tabata). The Private facilities range from hospitals to dispensaries but so far only Misana Hospital and PASADA (Upendano dispensary) provide PMTCT services.

3.2 Study design.

A cross sectional study design was used to examine the prevalence and factors affecting HIV serostatus disclosure among pregnant women receiving PMTCT services in Dar es Salaam.

3.3 Study Population.

All pregnant women attending ANC at Muhimbili National Hospital, Mwananyamala, Amana and Temeke municipal hospitals who had accepted VCT and their test results were invited to participate in the study.

3.4 Inclusion criteria.

3.4.1 Pregnant women attending ANC

3.4.2 Having accepted VCT

3.4.3 Having received HIV test results

3.4.4 Those that consented for the study

3.5 Exclusion criteria.

3.5.1 Those that didn't consent for the study

3.6 Sample size and sampling technique

Purposeful sampling was used to select the health facilities, which were Muhimbili, Amana, Temeke and Mwananyamala Hospitals. Muhimbili National Hospital was one among the PMTCT pilot sites. The other three municipal hospitals offer PMTCT services and they serve a large population.

Consecutive pregnant women attendees at ANC on either the recruitment or follow up visit were first encountered at the ANC registry, whereby a research assistant who was also a counselor assessed their eligibility for the study using the ANC cards to ensure that the woman to be recruited had accepted VCT and received her test results. Only those with test results in the categories PMTCT-1, PMTCT-2 and PMTCT-1N were selected. A woman in the PMTCT-1 category would have received counseling with a positive HIV test and a woman in the PMTCT-2 category would have received counseling with a negative HIV test while a woman in the PMTCT-1N category would have received counseling with a positive HIV test and would have been given

Nevirapine tablets. The selected study subjects were then invited into privacy, one after the other and were briefed about the study and their verbal informed consent sought before they were interviewed.

Sample size was calculated using the formula,

$n = z^2pq/\varepsilon^2$ where:

n = expected minimum sample size

z = standard value which corresponds to 1.96 (at 95% CI)

p = the proportion of women attending PMTCT who do not disclose their serostatus is assumed to be 50 %(0.5%)

q = 1-p

ε = maximum likely error (0.05)

Therefore the minimum sample size was supposed to be:

$n= 1.96^2 \times 0.5(1-0.5)/0.05^2$

n=384

But pregnant women who gave consent and were enrolled until the sample size reached 437 participants.

3.7 Data collection methods

Eight research assistants, two from each hospital were trained for one day by the principle investigator. Training involved familiarization with the questionnaire and how to record the required information correctly. Sociodemographic information of the

respondent and her partner, serostatus disclosure, partner's serostatus, partner's reactions and perceptions of stigma was collected through face-to-face interview in Swahili using a structured questionnaire with open and close-ended questions that was pre-tested at MNH. Additional information such as the respondents ANC card number, age, gravidity, parity, residence, date of HIV test and date of HIV test results was obtained from the clients ANC card. Prevalence of HIV among the study population was obtained using the reported HIV test results on the ANC cards at the time of interview. Immunological tests used to detect whether the study population were infected with HIV or not was not considered since the women involved in this study may have been tested for HIV at the same health facility of interview or the respondent may have been tested for HIV at another health facility and then referred to the health facility of interview. Other respondents may have been tested under VCT settings. Therefore the prevalence of HIV obtained from the study population was as documented in the ANC cards.

3.8.0 Variables

3.8.1 Independent variables

3.8.1.1 Sociodemographic characteristics: age, marital status, occupation, religion education level and district of residence.

3.8.1.2 Reproductive health characteristics: number of pregnancies carried, number of previous live births, gestation age of current pregnancy in weeks and number of sexual partners.

3.8.1.3 Stigma and discrimination

3.8.1.4 Partner's reaction

3.8.2. Dependent variables

3.8.2.1 HIV serostatus disclosure

3.9 Data Management and Analysis

The principle investigator collected the filled questionnaires daily from the four sites and the questionnaires were checked for completeness and errors identified were rectified on a daily basis before data entry. Data was double entered then validation of duplicate entry to form a single data set by the principle investigator in a computer using EPI Info Version 6.04 followed by data cleaning. Data was then exported to SPSS version 10.0 for windows. Socio-demographic variables were analyzed using frequencies and measures of central tendency. Associations and strength of relationship between the independent variables and the dependent variables were obtained using cross-tabulations and the Chi-square test. Ninety five percent confidence interval around proportions were set using the Fleiss quadratic approximation formula. Logistic regression analysis was done to control the confounding factors and other determinants of HIV serostatus disclosure. The dependent variable was HIV serostatus disclosure while the independent variables were factors that showed statistical significance on univariate analysis including; respondent's level of education, marital status, religion, number of sexual partners and HIV status.

3.10 Study limitation:

Since the study involved disclosure of one's HIV serostatus, this may have prevented women from consenting to participate in the study. Initially this limitation was expected but during the course of data collection, it was not encountered probably because these women were assured of maximum confidentiality during interviews such that the questionnaire was identified by numbers only and not by their respective names and that data was handled by the research assistant and the principle investigator.

3.11 Ethical considerations:

Ethical clearance was obtained from the research and publication committee of Muhimbili University College of Health Sciences and permission to conduct the study was sought from hospital authorities. Informed verbal consent was obtained prior to data collection

3.12 Definition of terms

MTCT: Transmission of HIV from an infected mother to her child in her womb, during delivery or during breastfeeding.

PMTCT: Includes HIV testing and counseling, ARV prophylaxis and treatment, safer infant delivery practices, education and support for safer infant feeding practices.

PMTCT-Plus: An opportunity of expanding the continuity of care and treatment to mothers and families infected with HIV

CHAPTER FOUR

4.0. Results

Socio-Demographic characteristics of the respondents

The study involved 437 pregnant women who were interviewed from the three municipalities in Dar es Salaam. Table 1 shows that 42.8% of the women resided in Ilala, 40% in Kinondoni and 17.2% in Temeke district. Nearly two thirds (67.7%) of the respondents had completed primary school education. Sixty five percent were married and were housewives while 51.3% were Moslems.

The respondent's ages ranged from 15-42 years with a median age of 25 years. The respondents were relatively young as only 10.5% of the population was aged 35 years and above.

Table 1: Socio-demographic characteristics of the study population (N = 437)

Characteristic	Number studied	Percentage of total
Age (years)		
<25	175	40.0
25-34	216	49.5
>34	46	10.5
Education level		
No formal Education	30	6.9
Primary Education	296	67.7
Secondary/post sec Edu.	111	25.4
Marital status		
Never married	151	34.6
Ever married	286	65.4
Occupation		
Employed	138	31.6
Unemployed	35	8.0
Housewife	264	60.4
Religion		
Christians	213	48.7
Muslim	224	51.3
Residence		
Ilala	187	42.8
Kinondoni	175	40.0
Temeke	75	17.2

Reproductive health characteristics of the respondents

Nearly two thirds of the women (61.1%) reported having between 1 to 3 previous live births and one third of them (33.6%) had not given birth. Nearly half (49.7%) of these women had carried 2-3 pregnancies while 19% had carried four or more previous pregnancies. Over half (54.7%) of these women were at least 28 weeks or more than 28 weeks pregnant at the time of interview.(Table 2)

Table 2: Reproductive health characteristics of study population (N = 437)

Characteristic	Number studied	% of total
Number of pregnancies carried		
1	137	31.4
2-3	217	49.7
≥ 4	83	19.0
Number of previous live births		
0	147	33.6
1-3	267	61.1
≥ 4	23	5.3
Gestation age of current pregnancy (weeks)		
< 28 weeks	198	45.3
≥28 weeks	239	54.7
Number of reported sexual partners		
1	364	83.3
>1	73	16.7

Prevalence of HIV serostatus disclosure among the respondents

Table 3 shows that the overall prevalence of disclosure was 86%, being highest among the seronegative women (94.3%) and lowest among those with no formal education (60%).The prevalence of HIV serostatus disclosure was statistically significantly higher among the educated (87.5%-89.1%) compared to that among those with no formal education (60%) $p<0.01$.The findings were also true for religion showing that disclosure



was statistically significantly higher among Christians (90.1%) compared to Moslems (82.1%) ($p=0.02$).

Women with more than one sexual partner were less likely to have disclosed their HIV serostatus than those with only one sexual partner (71.2% compared to 89.0%) while HIV seronegative women were more likely to have disclosed their serostatus than HIV seropositive women. These results were also statistically significant $p<0.01$. There was no significant difference in HIV serostatus disclosure among the study population in respect to difference in age group, occupation, and place of residence, number of pregnancies carried as well as number of previous live births.

Table 3: Prevalence of serostatus disclosure by various characteristics of the respondents (N=437)

Variable	No studied	Number Disclosed	% Disclosed (95%CI)	p –value
Age (years)				
<25	175	154	88.0 (82.0, 92.2)	
25-34	216	183	84.7 (79.1, 89.1)	
>34	46	39	84.8 (70.5, 93.2)	0.62
Education level				
Non formal Education	30	18	60.0 (40.7, 76.8)	
Primary Education	296	259	87.5 (83.1, 91.0)	
Secondary/post sec Education	111	99	89.1 (82.0, 94.0)	<0.01
Marital status				
Never married	151	115	76.2 (68.4, 82.5)	
Ever married	286	253	88.5 (84.0, 91.8)	<0.01
Occupation				
Employed	138	118	85.5 (78.3, 90.7)	
Unemployed	35	27	77.1 (59.4, 89.0)	
Housewife	264	231	87.5 (82.8, 91.1)	0.24
Religion				
Christians	213	192	90.1 (85.1, 93.7)	
Muslim	224	184	82.1 (76.4, 86.8)	0.02
Residence				
Ilala	187	166	88.8 (83.1, 92.8)	
Kinondoni	175	146	83.4 (76.9, 88.4)	
Temeke	75	64	85.3 (74.8, 92.1)	0.33
Number of pregnancies carried				
1	137	124	90.5 (84.0, 94.6)	
2-3	217	184	84.8 (79.1, 89.1)	
≥ 4	83	68	81.9 (71.6, 89.2)	0.15
Number of previous live births				
0	147	133	90.5 (84.2, 94.5)	
1-3	267	225	84.3 (79.2, 88.3)	
≥ 4	23	18	78.3 (55.8, 91.7)	0.12
Number of reported sexual partners				
1	364	324	89.0 (85.2, 91.9)	
>1	73	52	71.2 (59.2, 80.9)	<0.01
HIV serostatus				
Positive	121	78	64.5 (55.1, 72.8)	
Negative	316	298	94.3 (90.9, 96.4)	<0.01
Overall disclosure	437	376	86.0 (82.4, 89.1)	

Factors associated with HIV serostatus disclosure among study population

Table 4 shows the results of a logistic regression analysis. The table shows that there was a significant association between being seronegative and HIV serostatus disclosure, indicating that seronegative women were eight times more likely to disclose their HIV serostatus (OR=8.3) than seropositive women.

The reported number of sexual partners a woman possessed and the woman's marital status were not associated with HIV serostatus disclosure in logistic regression analysis. Christian women were twice as much likely to disclose their HIV serostatus compared to Muslims (OR=2.4). Women with primary education were nearly three times more likely to disclose their HIV serostatus (OR=2.9) and those with secondary/post secondary education, twice likely to disclose their HIV serostatus (OR=2.1) compared to those with no formal education..

Table 4: Logistic regression of predictors of HIV serostatus disclosure among study population

Variable	OR (95%CI)	p-value
Education level		
Non formal Education	1	
Primary Education	2.9 (1.1, 7.4)	0.025
Secondary/post sec Education	2.1 (0.5, 5.7)	0.166
Marital status		
Never married	1	
Ever married	1.4 (0.7, 2.7)	0.303
Religion		
Muslim	1	
Christians	2.4 (1.2, 4.6)	<0.01
Reported number of sexual partners		
>1	1	
1	1.4 (0.6, 2.8)	0.396
HIV serostatus		
Positive	1	
Negative	8.3 (4.3, 16.1)	<0.01

Reactions from partners of respondents following HIV serostatus disclosure

Among 376 women who disclosed their HIV serostatus to their partners, other relatives and friends; 349 women disclosed their HIV serostatus to their sexual partners only. Reactions from the respondent's sexual partners were classified into those whose reactions were noticed immediately and those whose reactions were noticed subsequently following disclosure of their HIV serostatus. Table 5 below show that among 349 respondents' partners 243 (69.6%) accepted, 66 (18.9%) were shocked and 40(11.5%) reacted indifferently initially following the woman's HIV status disclosure.

Majority (71.6%) of respondents whose partner's accepted the woman's test results initially following disclosure of the woman's HIV serostatus were supportive later on. Only one (0.4%) respondent's partner who initially accepted the woman's test result abandoned/accused the woman. Almost quarter (21.8%) of the respondents partners who accepted the woman's HIV test results initially, reacted indifferently subsequently whereas 15 (6.2%) respondents partners went for a HIV test. Among those respondents partners who were shocked initially following disclosure of the woman's HIV status, a substantial proportion were supportive (40.9%) subsequently and 11 (16.7%) went for a HIV test. Of those respondents partners who reacted indifferently immediately following disclosure of the woman's HIV status, nearly half of them were supportive (45.0%), and 4 (10.0%) respondents' partners went for a HIV test later on.

Table 5: Respondents partner's immediate reaction by subsequent reactions following disclosure of the respondents HIV serostatus (N=349)

Immediate reaction	Subsequent reaction				Total (%)
	Supportive (%)	Accused/ abandoned (%)	Tested for HIV (%)	Indifferent (%)	
Accepted	174 (71.6)	1 (0.4)	15 (6.2)	53 (21.8)	243 (69.6)
Shocked	27 (40.9)	14 (21.2)	11 (16.7)	14 (21.2)	66 (18.9)
Indifferent	18 (45.0)	3 (7.5)	4 (10.0)	15 (37.5)	40 (11.5)

Proportion of women whose partners tested for HIV in relation to when study population was tested for HIV

Among the 437 women studied, 155 (44.7%) reported that their partners had tested for HIV infection of whom 45.2% had tested before the woman, 29.6% had tested after the woman, while a quarter (25.2%) tested for HIV together with the respondent. (Table 6)

Table 6: Reported time of HIV testing among respondent's sexual partners relative to that of the respondents (N=155)

Time of HIV testing among partners	Number studied	Percentage of total
Before the respondent	70	45.2
After the respondent	46	29.6
Same time as the respondent	39	25.2

Perceptions of stigma among study population

Among the study population, 35 mothers (8%) thought that PLWHA should be avoided from normal contact, 207 (47.4%) thought that HIV positive men prefer to hide their serostatus and 156 (35.7%) thought that HIV positive women prefer to hide their serostatus.(Table 7)

Table 7: Proportion of study population who responded positively on their perceptions towards stigma (N=437)

Perception	Number of women studied	Percentage of total
PLWHA to be avoided from normal contact	35	8.0
HIV + men tend to hide serostatus	207	47.4
HIV + women tend to hide serostatus	156	35.7

Table 8 below summarizes the study population's responses on their perception towards stigma by their HIV serostatus. Of 437 women interviewed, 27.6% and 72.3% had records indicating that they were seropositive and seronegative respectively. A small proportion (3.3%) of HIV positive women reported that PLWHA should be avoided from normal contact. There was no much difference in what these seropositive women thought about HIV positive women and men tending to hide their serostatus.

Among 316 seronegative women interviewed, a small proportion (9.8%) thought that PLWHA should be avoided from normal contact and nearly half (45.3%) thought that

HIV positive men tend to hide their serostatus whereas, 30.4% thought that HIV positive women tend to hide their HIV serostatus. (Table 8)

Table 8: Perceptions on PLWHA by HIV serostatus disclosure

Perceptions	Number of women studied (%) N=437	HIV+ (%) N =121	HIV- (%) N=316
Respondents who think that PLWHA should be avoided	35 (8.0)	4 (3.3)	31 (9.8)
Respondents who think that HIV positive men tend to hide their HIV serostatus	207 (47.4)	64 (52.9)	143 (45.3)
Respondents who think that HIV positive women tend to hide their HIV serostatus	156 (35.7)	60 (49.6)	96 (30.4)

Reported prevalence of HIV among study population

The prevalence of HIV infection in this study was found to be 27 %.(Table 9). It was lowest among those women carrying their first pregnancy (18.2%) at the time of interview and highest in those with more than one reported sexual partner (57.5%).The prevalence of HIV differed by various characteristics of the study population. HIV prevalence increased with age by 20 % (below 25 years) to 34.7 % (beyond 34 years). There was also a significant difference among mothers with non-formal education (53.3%) who had a higher prevalence of HIV compared to mothers who were educated. When comparing the prevalence of HIV among mothers studied, those who were never married had a higher prevalence (34.4%) than those who had ever married at the time of interview (p value =0.02). Those mothers who resided in Ilala district had a lower prevalence of HIV (19.3%) compared to those who resided in Kinondoni (33.1%) and

Temeke (33.3%) districts (p value <0.01). There was a significant difference between prevalence of HIV among mothers who carried their first pregnancy who had less HIV prevalence (18.2%) compared to those with more than one pregnancy (p value=0.01). Likewise, mothers who had borne one child and more had a higher prevalence of HIV compared to those who had not given birth (19.0%) (p value=0.01).Those with more than one sexual partner had a higher prevalence (57.5%) than those with a single partner (21.7%). This result was statistically significant (p value < 0.01).

Table 9: Prevalence of HIV infection as documented by ANC cards by various characteristics of the study population characteristics (N=437)

Variable	Number studied	Number of HIV positive	% HIV positive (95%CI)	p-value
Age (years)				
<25	175	35	20.0 (14.5, 26.9)	
25-34	216	70	32.4 (26.3, 39.1)	
>34	46	16	34.7 (21.7, 50.3)	0.01
Education level				
Non formal Education	30	16	53.3 (34.6, 71.2)	
Primary Education	296	82	27.7 (22.7, 33.2)	
Sec/post sec Education	111	23	20.7 (13.8, 29.7)	<0.01
Marital status				
Never married	151	52	34.4 (27.0, 42.7)	
Ever married	286	69	24.1 (19.4, 29.6)	0.02
Occupation				
Employed/self employed	138	44	31.8 (24.4, 40.4)	
House wife	264	66	25.0 (19.9, 30.8)	
Unemployed	35	11	31.4 (17.4, 49.4)	0.29
Religion				
Christians	213	62	29.1 (23.2, 35.8)	
Muslim	224	59	26.3 (20.8, 32.7	0.51
Residence				
Ilala	187	36	19.3 (14.0, 25.8)	
Kinondoni	175	58	33.1 (26.3, 40.7)	
Temeke	75	25	33.3 (23.1, 45.3)	<0.01
Number of pregnancies carried				
1	137	25	18.2 (12.4, 25.9)	
2-3	217	71	32.7 (26.6, 39.5)	
≥ 4	83	25	30.1 (20.8, 41.3)	0.01
Number of previous live births				
0	147	28	19.0 (13.2, 26.5)	
1-3	267	86	32.2 (26.7, 38.2)	
≥ 4	23	7	30.4 (14.1, 53.0)	0.01
Number of reported sexual partners				
1	364	79	21.7 (17.6, 26.4)	
>1	73	42	57.5 (45.4, 68.8)	<0.01
Total	437	121	27.6 (23.5-32.1)	

CHAPTER FIVE

5.0 DISCUSSION

Knowledge of one's HIV serostatus is the most powerful tool of behavior change. People who know their HIV serostatus should take appropriate steps to protect themselves as well as their partners. However, the issue of serostatus disclosure is a sensitive one and in places where high stigma exists people are reluctant to share their HIV positive status with others. In order to access care and support for HIV infection, however, it is usually necessary to disclose one's status to health care providers and one's family.

This study sought to determine the prevalence and the influence of socio demographic, reproductive health and other factors on serostatus disclosure among pregnant women attending ANC clinics in Dar es Salaam.

Although the overall prevalence of HIV serostatus disclosure in this study was found to be high (86%), it varied with different characteristics among the study population. Women with no formal education had the lowest prevalence of disclosure (60%) while women who were seronegative had the highest (94.3%). The findings of a low prevalence among women with no formal education may have resulted from the fact that these illiterate women don't realize the importance of sharing their HIV serostatus. The observed difference in HIV serostatus disclosure among the seronegative women could be explained by the fact that seronegative women are happy to share their HIV

serostatus to their partners in the hope that their partners would also go for counseling and a HIV test and therefore be more faithful in marriage.

Literature indicated that the prevalence of HIV disclosure among women in developing countries ranges between 16.7% to 86% [Medley A et al, 2004]. However, caution should be exercised as there were considerable differences in the methods used and in the periods of measurement. Some studies looked at disclosure two weeks after testing and others almost four years after testing. These prevalence figures are therefore not directly comparable from study to study but may be useful in identifying trends in disclosure. This study did not consider the timeframe between HIV test date and HIV disclosure date and therefore the prevalence obtained would be cumulative. A more reliable measure of prevalence disclosure would require that the women are tested at the same time and periodically followed up for disclosure rates. This would be difficult.

The prevalence of HIV serostatus disclosure among the women studied was 94.3% and 64.5% in seronegative and seropositive women respectively. This significant difference was also seen in a comparable study in Dar es salaam 2003, under VCT setting where HIV serostatus disclosure among HIV negative women was 79.5% while among HIV positive women it was 64% [Maman S et al, 2003]. In Dar es Salaam, disclosure to partners by HIV positive women has increased overtime, but is still significantly less than that by HIV negative women. During a VCT study conducted at Muhimbili Health Information Centre (MHIC), Dar es Salaam, in the mid 1990's, only 27% of HIV

positive women who were tested as individuals disclosed their test results to a partner within six months after being tested [Maman S, 2001]. Similarly, a study carried out in Bobo-Dioulasso, Burkina Faso in 2001 among 306 HIV-positive women enrolled in a perinatal trial revealed that 17.6% of women who tested positive during pregnancy disclosed their serostatus to their male partners [Nebbie Y et al, 2001].

The proportion of women disclosing their HIV serostatus to partners and significant others found in this study was notably higher than that described in literature on PMTCT in sub-Saharan Africa. It may be that women in routine PMTCT services, in this study population receive more support for disclosure during their counselling sessions than women participating in trials focusing on the efficiency of preventive ARV therapies. With the advent of Care and Treatment Centers (CTC) providing Highly Active Antiretroviral Therapy (HAART), comes the view of HIV as a largely endemic and chronic condition, not necessarily a sign of impending AIDS. The task of staying negative is therefore viewed less as a community supported goal, but as a personal challenge requiring individuals to develop their own idiosyncratic calculus of risk, ethical morals around disclosure and behavior change.

In this study a substantial number of women (89.0%) with a single sexual partner reported to have disclosed their HIV serostatus compared to those with more than one sexual partner (71.2%). These findings are consistent with those in a study carried out in Cape Town, South Africa, where those having more than two sexual partners were more

likely to have not disclosed their HIV serostatus compared to those having fewer sexual partners [Olley BO et al, 2004]. Another study carried out at a public STD clinic in New Orleans, Louisiana reported that predictors of disclosure included being in a monogamous relationship [Niccolai et al, 1999]. Findings in this study revealed that a substantial proportion of Christian women (90.1%) disclosed their HIV serostatus compared to Muslim women (82.1%). Furthermore it has been hypothesized that for Muslim women polygamy increases the complexity of disclosing their HIV serostatus and may increase the risk of divorce.

In this study a lower proportion of women with non formal education had disclosed their HIV serostatus than that of those with secondary or post secondary education. However logistic regression analysis showed that there was no association between the respondent's level of education and disclosure of HIV serostatus. Opposite findings have been reported by Issiaka and colleagues who found that women with a higher level of education were more likely to share their results with their partners than women who were illiterate [Issiaka S et al, 2001].There was no association between maternal age and HIV serostatus disclosure in this study unlike a study which revealed that older age was associated with increased HIV serostatus disclosure [O'Brien ME et al, 2003].

Reactions from the respondent's sexual partners were classified into those whose reactions were noticed immediately and those whose reactions were noticed subsequently following disclosure of the respondents HIV serostatus. Majority of the respondent's partners who initially accepted (69.6%) the woman's HIV test results went

on to be supportive (71.6%) subsequently and a small proportion of these respondents' partners went for a HIV test (6.2%) thereafter. A comparable cross sectional study in Mombasa, Kenya in 2000 that involved 331 pregnant women who were interviewed two months after testing positive revealed that 73% of partners were understanding [Gaillard et al, 2000]. Findings from similar studies indicated that both 81.9% of HIV negative and 48.9% of HIV positive women reported that their partners reacted supportively to disclosure of the woman's test results [Maman S et al, 2003].

Among 66 (18.9%) of the respondent's partners who were shocked initially upon disclosure of the woman's HIV serostatus; about 40.9% of the respondents partners, irrespective of the respondents HIV serostatus, were supportive to the woman subsequently. Nearly a quarter each of the respondent's partners abandoned/ accused (21.2%) the woman and was indifferent (21.2%) to the woman. A cross sectional study in Mombasa, Kenya in 2000 revealed that 9.3% of respondent's sexual partners had no comment following HIV status disclosure of the woman [Gaillard et al, 2000]. The highest reported proportion of the respondents partners who went for a HIV test (16.7%) subsequently were among those partners who were shocked initially following disclosure of the woman's HIV serostatus. This study further showed that those respondents' partners, who were indifferent initially following HIV serostatus disclosure of woman, tended to be supportive (45.0%) subsequently and others continued to be indifferent (37.5%).

Three (7.5%) respondents' partners reacted by being indifferent initially but subsequently accused/abandoned the women, indicating that male partner's can make unpredictable decisions. A comparable study in Burkina Faso, 2001 involving 79 HIV positive women tested as part of antenatal care, it was reported that informed partners were indifferent (72%) [Issiaka S et al, 2001].

Among the 437 women studied, none reported physical violence from their partners following disclosure. Contrary to this, other studies revealed between 3.5% and 14.6% of women reported violent reactions from partners following HIV serostatus disclosure [Medley A et al, 2004]. In yet another study 4% of women reported a case of dispute without violence [Issiaka S et al, 2001]. The highest rates of disclosure-related violence were reported among women in antenatal care settings [Kilewo, 2001; Gaillard, 2000]. The absence of reported violence may be due to the women not admitting to acts of violence by their partners for fear that such reports could be used against them. A cross sectional study in Mombasa, Kenya in 2000 involving 331 pregnant women who were interviewed two months after testing positive revealed that 3.5% of male partners physically assaulted the woman [Gaillard et al,2000]. While a relatively small proportion of women report negative outcomes, this may represent a large absolute number of women as more women learn that they are HIV positive and disclose their HIV status to partners and significant others. Thus, it is important to find approaches to the scaling up of VCT and PMTCT services as critical prevention and care intervention strategies that also enable women to capitalize on the beneficial outcomes and minimize the harmful

aspects of sharing their HIV serostatus with others. These findings suggest the need to examine the baseline levels of gender based violence to better isolate the impact of pregnancy, HIV status, disclosure and other variables or outcomes for women undergoing PMTCT, VCT and other forms of HIV counseling and testing. This knowledge can inform program designers to increase positive outcomes for women.

Among the 155 partners of respondents who went for a HIV test nearly half of them were reported to have taken the test before the woman (45.2%) while over a quarter each of the respondents partners took the test either after (29.6%) or at the same time as the respondents (25.2%). The higher proportion of respondents who reported to have taken an HIV test before the index woman may indicate a positive health seeking behavior in this era of HIV/AIDS. However, the proportion of respondent's partners who tested for HIV after the woman or together with the woman was higher than that of those who tested before. This higher proportion may indicate that these partners went for a HIV testing after being influenced by the woman.

Based on perceptions of stigma among the 437 pregnant women in this study, about half (52.9%) of those women who were seropositive thought that HIV positive men tend to hide their HIV serostatus and an equal half (49.6%) thought that HIV positive women tend to hide their HIV serostatus. A small proportion (3.3%) of these seropositive women thought that PLWHA should be avoided from normal contact. One of the main barriers to HIV serostatus disclosure is stigma and discrimination, which may be

grounded in the experience of witnessing others being mistreated because they were infected with HIV. However this finding may be due to increased awareness in the general population about the HIV transmission routes which do not include normal contact.

Despite health education messages about HIV/AIDS, family members may develop avoidant behavior with their HIV positive family members. For this reason, the risk of disclosure of a HIV positive test result is significant, and many women resist disclosing their results to anyone.

Service providers face a number of practical and professional challenges in addressing disclosure, including the lack of clear policies, guidelines and tools on disclosure. They have limited time and skills and may be grappling with the silence around HIV within their profession, place of work, and social network. Providers face the ethical challenge of how to address the issue of negative consequences following disclosure, while at the same time, promoting disclosure, given that most women report positive outcomes.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

This study revealed that the majority of HIV –negative women and a large proportion of HIV-positive women experience positive outcomes after serostatus disclosure. Although the major barrier to disclosure is the fear of negative outcomes, women are in the best position to know when it is safe to disclose.

In the context of PMTCT, disclosure can be facilitated through couple counselling, increased male involvement in the process and the assurance of ongoing psychosocial support to meet the needs of women who choose to disclose. Innovative programmes can include interventions to strengthen and empower women economically and socially, thereby reducing the economic dependency on male partners. Other programs can explore how to promote women's support groups that will ensure ongoing psychosocial support and reinforce the perceptions of 'positive living' (for example through formation of mother to mother peer support groups).

Providers should help clients to assess the consequences of disclosure in their own lives and how they might access social support to address possible positive or negative outcomes. Providers can also prepare clients to share their test results through the use of role-plays, planned disclosure situations or mediated disclosure, according to the clients needs identified through screening and self-assessment. Counselors should be trained to

understand the intersections of confidentiality, disclosure and negative outcomes. Providers at all levels should be oriented to identify and prioritize clients who will benefit from or be harmed by disclosure.

Policymakers and community leaders particularly religious leaders, should work together to formulate policy on disclosure, to facilitate community ownership of interventions and to promote disclosure as a social norm.

At the community level, interventions should foster community awareness on HIV, VCT and PMTCT and promote the establishment of self-help groups and post-test support groups. Broader community-based initiatives should be fostered to address gender inequity and power difference, as well as gender-based violence.

In summary, disclosure is beneficial for most women. However there is more to learn about (a) the small proportion of women who experience negative consequences of disclosure and (b) understanding how women can be supported to disclose their HIV serostatus without negative consequences.

Questions that need further research include:

- Which women most need assistance with disclosure to be targeted for counseling resources so that they are supported.
- How to establish and scale up effective PMTCT and VCT programs in a manner that protects women;

- What community environments provide minimal negative effects of disclosure for women who are HIV positive.

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