

Full Length Research Paper

Association between types of coping strategies adopted following HIV seroconversion and disclosure of HIV status, between 2002 and 2009, Zimbabwe

Masuku-Sisimayi, T.^{1*}, Sisimayi, C. N.² and Babill-Stray Pedersen³

¹Department of Community Medicine, College of Health Sciences, University of Zimbabwe, P. O. Box A178, Avondale, Harare, Zimbabwe.

²PSRT Centre, Island House, No. 6 Natal Road, Belgravia, Harare, Zimbabwe.

³University of Oslo, Institute of Clinical Medicine and Division of Women and Children, Rikshospitalet, Oslo University Hospital, N-0027 Oslo, Norway.

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People who were seronegative on their first human immunodeficiency virus (HIV) testing may react differently to being seropositive on subsequent testing (seroconversion) compared to those who were HIV seropositive at their first HIV testing. In both cases, disclosure of a positive HIV status to at least one other person is considered one of the most important factors for prevention of transmission of HIV. Whilst reactions of people towards a positive HIV test result are well documented, how HIV infected women cope with HIV seroconversion and whether they disclose their HIV serostatus following seroconversion or not is least known. This study assessed if types of coping strategies adopted following HIV seroconversion are associated with disclosure of HIV serostatus. There were no statistically significant associations between types of coping strategies adopted following HIV seroconversion and disclosure of HIV serostatus. We also noted that prevalence of non-disclosure was very high in the context of high disease burden. Our results suggest that there is a need to develop new and effective ways of encouraging disclosure of HIV serostatus among people who test HIV positive on subsequent testing. Results also present opportunities for further enquiry on factors that may be associated with disclosure of HIV serostatus to strengthen current efforts of containing the spread of HIV infection.

Key words: Disclosure, coping strategies, human immunodeficiency virus (HIV), seroconversion.

INTRODUCTION

The human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) epidemic is one of the leading causes of morbidity and mortality in Zimbabwe. In 2009, HIV prevalence was estimated at 13.7% in the adult population (15 to 49 years) (Ministry of Health and Child Welfare (MoHCW), 2009). There is an

estimated 1.1 million adults aged 15 and above, sixty percent (60%) of whom are women and 150,000 children under 15 living with HIV (Ministry of Health and Child Welfare (MoHCW), 2010). It is estimated that 220 persons become infected with HIV each day and average life expectancy has dropped in the past decades and is

*Corresponding author. E-mail: thenjiwe.masuku@gmail.com. Tel: +263 (0) 773 264 332/4.

currently at 50 years for males and 49 years for female (CIA World Fact Book. <https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html>). Zimbabwe, like many other countries affected by HIV, has over the years continued to scale up HIV prevention, care and treatment programmes in an effort to combat the spread and effects of the disease. While there is no known cure for HIV infection, there is a general consensus among public health professionals that HIV and AIDS is preventable and manageable both in terms of its transmission and progression. HIV infection is currently managed through antiretroviral therapy (ART) and psychosocial support (PSS), which also encourages disclosure of HIV serostatus. Many people have come to understand that HIV infection is manageable, however in general a positive HIV diagnosis is often considered as a crisis by individuals, and is something that one has to cope with.

Reactions of people towards a positive HIV test result are well documented (Tilley, 1990b; Internet: [http://www.psych.wellbeing.HIV-AIDS-related stigma and discrimination. htm](http://www.psych.wellbeing.HIV-AIDS-related%20stigma%20and%20discrimination.htm) 05 January 2008). It is possible that people who test HIV negative on their first time to undergo HIV testing may react differently to a positive diagnosis on subsequent testing (seroconversion) compared to those who test positive for the first time. Unfortunately, how HIV infected women cope with HIV seroconversion and whether they disclose their HIV status following seroconversion or not is least known. This study sought to assess if there are any associations between types of coping strategies adopted following HIV seroconversion and disclosure of HIV serostatus.

MATERIALS AND METHODS

This was a nested cross-sectional analytic study that enrolled 49 women HIV seroconverters from a major study known as Better health for the African Mother and Child (BHAMC)¹ study in Chitungwiza and Epworth, Zimbabwe. Participants were women who had undergone HIV testing in 2002/3 and initially tested HIV negative and then tested HIV positive on subsequent testing bet-

¹The BHAMC Study was an 8 – year follow-up PMTCT collaborative study between the University of Oslo and University of Zimbabwe conducted in Epworth and Chitungwiza local clinics in Zimbabwe. The study's main objectives was to assess the effect of single dose (SD) nevirapine (NVP) given to pregnant women in labor within 72 h post delivery to the infant on cognitive and somatic growth of children. 1050 (479 were HIV positive, 571 HIV Negative) pregnant women in their third trimester were enrolled into the study and followed up to measure the purported results of the study. This study was cleared by the Medical Research Council of Zimbabwe.

ween 2002 and 2009. All the participants were purposively identified. Consenting participants were interviewed on their socio-demographic factors, current disclosure status of their HIV serostatus and their coping strategies. Two data collection tools were used, the disclosure questionnaire and the adapted brief COPE inventory⁶. The disclosure questionnaire was used to ascertain the disclosure status among the participants. It contained questions related to socio-demographic profiles of the participants (that is, participant's age, religion, number of children, marital status, employment status and level of education) and questions relating to their current disclosure status (that is, if it has been done, how long after the diagnosis was disclosure done, why (specific reason) disclosure was done and why it was done to the person(s) that were chosen. It also included questions relating to why disclosure has not been done and whether participants who had not disclosed considered disclosing their HIV serostatus in future.

The brief COPE inventory (Carver and Schiender, 1989) was used to measure participants' coping strategies. It is a multi-dimensional coping inventory that is used to assess the different ways in which people respond to stress. It consists of 28 items that make up 14 coping scales, which can then be used to determine the predominant coping strategy one uses. Adaptation of the tool was done to suit the local situation and involved eliminating 8 items which address four coping scales which measure coping responses that are considered to be less useful (Tilley, 1990b; Howard and Hong, 2002) in the classification of coping strategies. The adapted tool contained 20 items that made up 10 conceptual coping scales that is, five scales (of two items each) measured conceptually distinct aspects of problem focused coping strategy (active coping, planning, seeking instrumental social support, and restraint coping, suppression of competing activities); five scales measured aspects of emotion focused coping strategy (religion, positive reinterpretation and growth, seeking emotional support, acceptance and denial). Interviews lasted between 60 to 90 min. Prevalence of HIV status non-disclosure, types of coping strategies and their associations were assessed using Pearson's Chi-Square and logistic regression analysis. This study was cleared by the Joint Research Ethics Council of Zimbabwe (JREC) Ethical Committee and written informed consent was obtained from the participants before participating in this study.

RESULTS

Demographic characteristics

The participants' mean age was 33.7 with a standard deviation of 5.53. Their age range was 23 to 47 years. Most participants were married (65.3%), self-employed (53.1%), apostolic (79.6%), reached secondary level education (73.5%) and their mean number of children was 3 (Table 1).

Participants' coping strategies

Out of the 49 participants, 27 (55.10%) were found to be predominantly emotion focused copers while 22 (44.90%) were found to be predominantly problem focused copers. Amongst those who were noted to be predominantly emotion focused copers, the coping scale "Denial" was

Table 1. Socio-demographic characteristics.

Variable	Frequency (N=49)	n(%)
Age: mean (s.d) 33.7, (5.53)	-	-
Marital status (current)		
Single	11	22.45
Married	32	65.31
Widowed	6	12.24
Religion		
Non- apostolic	10	20.4
Apostolic	39	79.6
Employment status		
Self employed	26	53.06
Formal employed	4	8.16
Unemployed	19	38.78
Education		
Primary level	13	26.53
Secondary level	36	73.47
No. of children (mean) [3]	-	-

observed to be least utilised (44.4%) relative to the other four scales that make up the emotion focused coping strategy (seeking emotional social support 85%, positive reinforcement and growth 85.2%, acceptance 81.5%, and religion 81.5%). Usage of problem focused coping scales among the participants who were noted to be predominantly problem focused copers was noted to be generally above 70% across all the coping scales that make up the problem focused coping strategy.

Disclosure of HIV status

Participants were diagnosed with HIV between 6 weeks and 8 years after enrolment into the study population with most of them 28 (57.1%) having received their diagnosis between 2006 and 2009. The prevalence of non-disclosure of HIV status was observed to be 32.7%. The main reasons for non-disclosure were reported as fear of rejection (68.8%), persons to be disclosed were perceived to be not ready for this kind of information (18.8%) and that disclosure was not considered important (12.5%). Forty-three percent of the non-disclosing participants reported having no intention to disclose their HIV serostatus in the future, and 85.7% of these were emotion focused copers.

Many participants (45.5%) among those who disclosed their HIV serostatus reported that they disclosed their HIV

serostatus within 1 day following diagnosis. More than half (53.3%) of those who reported having disclosed within 24 hours were diagnosed between year 2002 and 2005. Disclosure of HIV serostatus was done to different people with the majority (54.5%) reporting having disclosed to husband/sexual partner, 27.3% disclosed to a family member from the family of origin who is female, and the 18.2% disclosed to a friend. Disclosure was done for various reasons which depended on to whom it was done to. Among those who disclosed to husband/sexual partners, the reasons varied from enquiring why they had infected them with HIV (38.9%), informing him that he is the cause of her HIV infection problem (22%), ensuring that he knows her HIV serostatus so that he may go and get tested (22%), avoiding being persuaded or coerced into having more children (11%) and introducing condom use in their sexual relationships (6%). Amongst those who disclosed to other persons other than sexual partners, the main reason reported was that they were seeking emotional support as these were perceived as people who could understand them quickly.

Factors associated with disclosure of HIV serostatus

Sociodemographic factors: Using Pearson Chi-square, none of the sociodemographic factors included in this study were noted to be statistically significantly associated with disclosure of HIV serostatus (Table 2).

Coping strategies: To assess the association between types of coping strategies and disclosure of HIV status, participants were classified according to their coping strategies as well as their HIV disclosure status (Table 3). No statistically significant associations were observed between the types of coping strategies and disclosure of HIV status (p -value 0.181 > 0.05). An odds ratio (OR) of 2.33 with a 95% confidence interval (0.574303; 10.42509) was obtained indicating that disclosure of HIV status is equally likely between the two types of coping strategies. The proportion of those who did not disclose among the predominantly problem focused copers was observed to be 0.22 (0.05; 0.40) whilst that for the predominantly emotion focused was 0.41 (0.22; 0.59). The differences in these proportions were not statistically significantly different. Using the two sample test for equality of proportions, a p -value of 0.181 was obtained. In addition the 95% CI for these proportions were noted to overlap hence there was insufficient evidence to reject the null hypothesis. This means that non-disclosure of HIV status does not depend on one's type of coping strategy. Logistic regression analysis also indicated that none of the factors considered in this study were independently associated with disclosure of HIV status (Table 4)

Table 2. Socio-demographic factors associated with disclosure of HIV status.

Socio-demographic factor	Disclosure of HIV status		P-value*
	Disclosed (n=33) n(%)	Did not disclose (n=16) n (%)	
Marital status			
Single	7(63.6)	4(36.4)	0.704
Married	21(65.6)	11(34.5)	
Widowed	5(83.3)	1(16.7)	
Religion			
Apostolic	5(50.0)	5(50.0)	0.828
Non-apostolic	28(71.8)	11(28.2)	
Employment status			
Self employed	15(57.7)	11(42.3)	0.865
Formal employment	3(75.0)	1(25.0)	
Unemployed	15(79.0)	4(21.0)	
Education			
Primary	9(69.2)	4(30.8)	0.475
Secondary	24(66.7)	12(33.3)	
No. of children			
1 - 3	25(71.4)	10(28.6)	0.630
4 - 6	8(57.1)	6(42.9)	

*p-values obtained using Pearson's Chi-square.

Table 3. Distribution of participants by coping strategies and disclosure status.

Disclosure status	Coping strategy		Total
	Emotion focused n(%)	Problem focused n(%)	
Disclosed	16(59.3)	17(77.3)	33
Did not disclose	11(40.7)	5(22.7)	16
Total	27(100)	22(100)	49
	$\chi^2 = 1.789$	p-value = 0.181	-

DISCUSSION

Disclosure of HIV status was found to be not statistically significantly associated with types of coping strategies adopted following HIV seroconversion. This finding is not consistent with documented literature and common understanding that problem focused copers who in this case are expected to be more disclosing, adjust better in various ways in dealing with life challenges or stressors as they take action to alleviate challenging circumstances (Ralf and Christine, 1996). The number of participants who are predominantly emotion focused (27) was greater than that of participants who are predominantly problem

focused copers (22). However, the emotion focused coping scale "Denial" was observed to be less utilised among the participants who are predominantly emotion focused copers. This could be pointing to the fact that despite their preferred coping strategies, the women have accepted the reality of the existence of HIV and that there are other factors that may influence their coping strategies. Furthermore, no statistically significant associations were found between socio-demographic characteristics and disclosure of HIV status. Previous studies also found similar results (Maman and Medley, 2004; Kadowa and Nuwaha, 2009; Antelman et al., 2001; Gielen et al., 1997), perhaps suggesting that there are

Table 4. Factors independently associated with disclosure of HIV status.

Variable	Odds ratio	95% CI
Coping strategy	2.11	0.536; 8.336
Age	0.98	0.840;1.143
Religion	1.81	0.403; 8.201
Marital status	1.33	0.376; 4.751
Number of children	0.85	0.363; 2.021
Level of education	0.85	0.169; 4.300
Employment status	1.56	0.732; 3.336

other social factors that affect rates disclosure of HIV status.

There was no statistically significant evidence from this study to suggest that socio-demographic factors might be exclusively associated with types of coping strategies. Despite this however, socially meaningful results may be deduced. That more married women (56.2%) were noted to be emotion focused copers may imply that, as married women, they have their husbands to share their experiences with. In this particular instance, with regards to the patriarchal nature of marital relationships among the Shona people, the women may have had an opportunity to put all their concerns in the hands of their husbands and found comfort in it. The number of participants who were widows and being problem focused copers was higher than that of the same women who are emotion focused copers, suggesting that this group of women quickly realised the need to take responsibility as widowhood has strong bearings on the social support system. Generally, a widows often lack continued social support of the extended family following death of spouse and eventually become responsible for their own upkeep and that of their children. Among single women, the frequency of those who are emotion focused copers is higher than that of single women who are problem focused copers, a result that may point to their hopes of marriage in future. In our general society, although there may be some exceptions, single women look forward to marriage and a positive HIV status may be perceived as counter to such hopes, as this has negative implications on their general and reproductive health.

The prevalence of non-disclosure was observed to be 32.7% in this study and is considered a high rate in the context of high disease burden. With all the known antecedent benefits of disclosure, 32.7% women in this study decided not to disclose their HIV status, hence the need for further investigation to understand why some people choose to avoid disclosing their HIV status even when they know that there are more benefits if they did. This would provide insight into how disclosure rates may

be increased. Not surprisingly though, non-disclosure and no intention to disclose in the future was reported mostly among the emotion focused copers, suggesting that they may not consider or perceive disclosure of HIV status as an important way towards successful coping. If this is so, then psychologists, social workers, counsellors and public health practitioners have to consider ways of encouraging and showing the emotion focused copers why they should consider disclosing their HIV status as this is important for the mitigation and management of HIV infection.

The group of women who reported having not disclosed their HIV status and especially those who are not intending to disclose their HIV status in future is of particular concern. They are the group that may present greater challenges in the control of the spread of HIV infection. It is difficult to intervene as they are not willing to disclose which may also mean that they may not take precaution to protect others and even themselves from further re-infection. Thus, there is need to understand factors associated with disclosure of HIV positive status with the aim of suggesting measures for increasing the rates of disclosure among this kind of women who despite knowledge that disclosing has more benefits would still avoid doing so.

Findings on reasons for not disclosing HIV status such as fear of rejection are consistent with documented evidence from previous studies done on factors that affect rates of disclosure among women (Maman and Medley, 2004) across sub-Saharan Africa. Disclosure of HIV status to sex partners and others is less likely to occur when a person has witnessed and or perceives adverse outcomes.

Of particular concern in this study is the observation that disclosure, most of which was done to husband/sexual partner, was not necessarily meant to inform and protect the partners rather it was an enquiry and blame directed to the person suspected to have infected the women. At surface understanding, one would argue that at least disclosure would have been done anyway. However, there is a danger that the confrontational approach taken by the ones who are disclosing may affect the health seeking behaviour of those being accused, who may then choose to engage in a defensive mode and choose not to go for HIV testing on time to ascertain their own HIV status.

The current findings should however, be interpreted in the light of the sample size and methodological limitations of the study design used. The sample size may have not been large enough to detect the smallest differences. Further, the study used a dichotomous measure of disclosure of HIV status that does not entirely capture the complexity of the issues and circumstances of disclosure to sexual partners and other individuals. Future studies on disclosure of HIV status and coping strategies in

southern Africa should examine this broader range of factors including social class other personal and social factors, personality types, community perceptions and individual communication skills and belongingness which may be important in facilitating disclosure. Other areas that may require further investigation with the aims of increasing disclosure rates include investigating the health seeking behaviour of those who are disclosed to while being accused of having infected the persons who are disclosing their HIV status.

CONCLUSION

There is no association between types of coping strategies adopted following HIV seroconversion and disclosure of HIV status among women participating in the BHAMC study. Further, disclosure of HIV status does not depend on socio-demographic characteristics. The prevalence of non-disclosure is high in the context of high disease burden. This could point to the need to develop new and effective ways of encouraging disclosure of HIV status among people who test HIV positive on subsequent testing. Strong intervention approaches need to be put in place to ensure the safety of women who want to safely disclose HIV serostatus to their sexual partners. Results also present opportunities for further enquiry on other factors that may be associated with disclosure of HIV status to strengthen current efforts of containing the spread of HIV infection.

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