

HIV and Marital Outcomes: Dissolution and Remarriage in Kisesa, Tanzania

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Context and Research Questions

Marriage is usually related to HIV as a crucial component of the milieu determining sexual behaviour, with debate focusing on the scenarios in which marriage can either protect against, or increase, risk of infection (e.g. Boerma *et al*, 2002; Clark, 2004). Yet, while it is self-evident that marital status represents a fundamental component of family and household structure, very little of the literature considering the sociodemographic impacts of HIV/AIDS discusses the effects of the pandemic on unions. Any such effects will be shaped by the contexts of the marriage systems in which they are situated. Marriage in Africa is largely characterized by patriarchy. Females typically marry at a young age, often well below twenty years, to husbands who are considerably older; wives are, for the most part, socio-economically subordinate to (and dependent on) their husbands. Consequently, divorce frequently isolates women from economic and family resources (Gregson *et al*, 2002). That HIV is likely to be associated with socioeconomic vulnerabilities as a result of widowhood is one obvious relationship with marriage outcomes. If it is also the case that HIV infection is associated with increased probability of divorce/separation, it becomes a matter of concern that women will be affected especially adversely.

Research examining the pathways or causal mechanisms by which HIV infection might lead to union dissolution is scant, and there is little empirical evidence concerning whether the pandemic affects the probability of divorce/separation (Gregson *et al*, 2002); one notable exception comes from Rakai, Uganda (Porter *et al*, 2004). So far as widowhood is concerned, husbands are about twice as likely as wives to be infected first (Carpenter *et al*, 1999), and male mortality is likely to occur before female (since men are typically older, and older age at infection is associated with shorter survival time). The pathways to divorce/separation are less clear; possible mechanisms operate through health effects (whereby illness prevents an individual from performing expected labour-roles), stigmatization, or suspicions of infidelity (Porter *et al*, 2004). Health effects and/or stigmatization may prevent remarriage, and several authors have suggested that AIDS-associated stigma reduces remarriage probabilities (Caldwell, 1997; Mukiza-Gapere and Ntozi, 1995).

This paper will address these issues by investigating the influence of HIV-status on risks of marriage dissolution and remarriage in Kisesa, a high HIV prevalence population in north-west Tanzania, using data from an ongoing open-cohort study. In particular, sex-specific patterns will be considered, exploring the hypothesis that HIV-positive married women are more likely to become widowed, or separated / divorced, than HIV-negative

married women – but that the equivalent trend will be far less pronounced when marital outcomes of HIV-positive and HIV-negative men are compared. These hypotheses are based both on empirical observations (from cross-sectional surveys in rural African settings) of more women than men being widowed or divorced (Munguti *et al*, 1997; Boerma *et al*, 2002), and the assumption that social and economic patriarchy both precludes women from leaving husbands, and permits considerable stigmatization of females suspected of being HIV-positive. An analogous hypothesis will be investigated regarding remarriage, since patriarchal marriage systems may result in free remarriage being rarer for widows than for widowers (Spark-du Preez *et al*, 2004).

Data

Kisesa is a ward of Magu district, in the Mwanza region of Tanzania. The total population of the ward was 19,458 in 1994, subsequently growing to nearly 30,000 at present. The mainstay of research activities in Kisesa is a demographic surveillance system established following a baseline census in 1994, with follow-up surveys approximately every four months. The data used in the present study were collected in more detailed surveys, during which serological samples were taken to establish HIV status, while questionnaires were used to collect demographic and socioeconomic data and information on sexual behaviour and knowledge, attitudes and practices surrounding HIV/AIDS. The first of these ‘sero-surveys’ ran from August 1994 to July 1995; the second followed two years later (Boerma *et al*, 1999), a third survey was conducted in 1999-2000 (Mwaluko *et al*, 2003), and a fourth in 2003-2004. Recruitment to each survey was undertaken by listing the population (using the most recent demographic surveillance round), and inviting eligible persons (those in the correct age range and resident for at least one demographic round prior to the survey) to come to a central place in the village to be interviewed (by structured questionnaire) and give a blood sample. Home visits were also made (to encourage participation among those who did not attend). The attendance at each round ranged from 71% (in the third round of serological surveys) to 83% (in the fourth round).

Analysis & Preliminary Results

This study will investigate associations of changes in marriage status over time (approximately two-year inter-survey intervals) with both HIV status (as determined at the beginning of the interval) and a wide range of social, economic and behavioural variables. The analysis will be conducted separately for males and females. Initial descriptive analysis will examine the proportions of respondents undergoing each marital transition (all-cause dissolution; separation/divorce only; remarriage; and, for males only, net loss of wives) between survey rounds. Bivariate analyses will compare the incidence of transitions by HIV status. Multivariate logistic regression models will be fitted to estimate the association between HIV status and union dissolution / remarriage,

controlling for potential confounding or effect-modifying sociodemographic and behavioural variables.

6,467 consenting adults were interviewed and provided blood for at least two of the four serological surveys. The data indicate a significantly higher incidence of union dissolution among HIV-positive females than among HIV-negative females, as shown in Table 1 (which includes results of a two-tailed z-test for difference in proportion of union dissolutions between HIV-positive and HIV-negative individuals) . No such pattern is seen among men.

Table 1: Marriage dissolutions by HIV-status, ages 15-44:

	N ("person-intervals")	Proportion of HIV- whose unions dissolve	95% C.I.	Proportion of HIV+ whose unions dissolve	95% C.I.	z-test p- value
Females, separation/divorce only						
sero1-sero2	1390	0.06	0.05-0.07	0.12	0.04-0.20	0.084
sero2-sero3	1259	0.06	0.04-0.07	0.20	0.08-0.31	0.000
All	2649	0.06	0.05-0.07	0.15	0.08-0.22	0.000
Males, separation/divorce only						
sero1-sero2	776	0.06	0.05-0.08	0.05	-0.01-0.11	0.711
sero2-sero3	640	0.03	0.01-0.04	0	0	0.358
All	1416	0.05	0.04-0.06	0.03	-0.01-0.07	0.455
Males, 'fewer wives'						
sero1-sero2	778	0.11	0.08-0.13	0.10	0.01-0.18	0.834
sero2-sero3	645	0.08	0.06-0.10	0.16	0.03-0.28	0.144
sero3-sero4	503	0.11	0.09-0.14	0.09	0.01-0.19	0.721
All	1926	0.10	0.09-0.11	0.11	0.05-0.17	0.667

This sex differential persists when known and hypothesized confounders and effect modifiers are controlled for in logistic regression models: HIV is strongly associated with significantly increased all-cause union dissolution among married women, even when dissolution by widow-hood is excluded, but no such effect is seen among males. Likelihood ratio tests indicate that HIV status is not important in the models for males.

Crude comparisons of the proportions of HIV-positive and HIV-negative men and women remarrying indicate an association whereby HIV infection makes remarriage less likely for both sexes; preliminary findings are that this difference is significant among females, but not among males.

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