Mobility and HIV risk in Tanzanian couples: "When the cat's away, the mice will play"

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Several studies have shown that people who travel or who have recently migrated tend to be at higher risk for HIV and other sexually transmitted diseases (STD) [1-5]. The role of migration in the spread of HIV has primarily been described as a result of men becoming infected while they are away from home and infecting their wives or regular partners when they return [1,6,7].

Most studies do not consider those who stay behind and tend to give an one-sided view in which only mobile persons are taken into account. One study conducted in South Africa investigated the HIV infection in migrants and their partners staying behind, and in non-migrant couples in which both partners stayed at home [8]. It revealed that in couples in which only one of the partners was HIV positive, in one-third of the cases the wife staying at home was infected [8]. Therefore, understanding the sexual behaviour of both partners within a couple is essential before targeted interventions can be successfully implemented.

We investigated how mobility is related to risk behaviour and HIV infection in Tanzania, with special reference to the partner staying behind in mobile or migrant couples.

HIV-status, sexual behaviour and demographic data of couples were available from a longitudinal study in Kisesa, rural Tanzania. Persons were considered *mobile* if they slept outside the household at least once the night previous to a demographic interview, and *migrant* if a person changed residence at least once. All other persons were considered to be resident.

To investigate the association between mobility and risk of HIV, we compared socio demographic factors, sexual risk behaviour, and HIV infection of residents, mobiles, and migrants. After this, we also took the mobility status of the partners into account. Variables compared were age, educational level, occupation, presence of a regular non-spousal partner (other than the husband/wife) in the last year, sex with casual partner(s) in the last year, number of sex partners in the last year, and HIV/STD status (prevalence and incidence of HIV, and reported ulcers in private parts in the last year). All output was age-adjusted and tested for significant differences using logistic regression.

In general, migrant men did not report increased risk behaviour, but mobile men reported significantly more often more than two sex partners in the last year

compared to resident men (47.8% vs 40.0%, p=0.003). The proportion reporting ulcers in private parts was somewhat higher for mobiles and migrants, but this did not differ significantly from resident men (6.7% vs 4.6%, p=0.08 and 5.7% vs 4.6%, p=0.6, respectively). The HIV status did not differ significantly between the three groups, although mobile and migrant men had a slightly lower HIV prevalence and incidence than resident men.

However, migrant women reported more often multiple sex partners in the last year than resident women (6.8% vs 2.4%, p=0.001). Also, sex with a regular non-spousal partner and sex with a casual partner were markedly more common among migrant women than among resident women (8.3% vs 2.0%, p<0.001 and 5.2% vs 1.8%, p=0.004, respectively). The increased risk behaviour among migrant women was accompanied by a significantly higher HIV prevalence, compared to resident women (7.7% vs 2.7%, p=0.003), and a slightly higher HIV incidence. There were no particular differences in sexual risk behaviour and HIV status between mobile and resident women.

For resident men the mobility status of their wives was important for their own sexual risk behaviour and HIV/STD status. Resident men with migrant wives reported significantly more regular non-spousal, casual or multiple sex partners in the last year compared to resident men with resident partners (27.1% vs 12.5%, p=0.01, 37.9% vs 22.7%, p=0.005, and 63.8% vs 39.5%, p=0.001, respectively). The increased risk behaviour of resident men who have migrant wives was reflected in higher rates of ulcers in private parts, a higher HIV prevalence, and a higher HIV incidence. Surprisingly, risk behaviour of men seems to increase more if their wives migrate than if they are migrant or mobile themselves.

Resident women reported markedly more casual partners when their husbands were mobile or migrant (3.0% vs 1.3%, p=0.03), and they also had a higher, although not significantly different, HIV prevalence and incidence than resident women with resident partners. Migrant women with mobile/migrant partners reported consistently more sexual risk behaviour compared to migrant women with resident partners, although the increases were not significantly different. Migrant women with mobile/migrant partners showed the highest HIV prevalence (8.6%).

We conclude that both partners, the one moving away and the one staying behind, show more sexual risk behaviour and an increased risk of HIV infection. Interventions

aiming at reducing sexual risk behaviour due to mobility are now mainly targeted at mobile persons and places (e.g. miners and other migrant workers, and truck stops), and consist of STD services, condom distribution and education [9,10]. Involvement of the partners staying behind is necessary. Health education or condom distribution could be targeted at specific groups staying behind in rural areas, although practical and financial reasons could limit these interventions. A better intervention might be to stimulate moving with the partner to the new area by creating the right circumstances for housing, employment and schooling opportunities for children. In this case, both partners may be less likely to engage in more risky sexual behaviour and are therefore less vulnerable to HIV infection.

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