Poverty, Risky Sexual Behaviour, and Vulnerability to HIV Infection: Evidence from South Africa

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ABSTRACT

This paper explores the relationship among poverty, risky sexual behaviour, and vulnerability to HIV infection, using data from the 1998 South African Demographic and Health Survey. Asset index was employed as proxy of socioeconomic status. Inequalities in health were measured using concentration index. Women in poorer households were slightly less knowledgeable about HIV/AIDS, while the socioeconomic inequalities in risky sexual behaviour were negligible. These small health gradients may reflect the limitations of population-based surveys in collection of information on sexual behaviour. The results may also mean that women in general are equally at risk of HIV infection, which means that more work is required to establish how factors other than knowledge on HIV/AIDS and socioeconomic status stand to enhance the vulnerability of women to HIV/AIDS.

Key words: Poverty; Sex behaviour; Reproductive health; HIV, Acquired immunodeficiency syndrome; South Africa

INTRODUCTION

South Africa is one of the countries worst affected by the HIV/AIDS pandemic. The estimated prevalence of HIV among the adult population (20.1%) is amongst the highest in the world (1). HIV in South Africa is transmitted mainly through heterosexual intercourse (2) as is the case in sub-Saharan Africa (3). Awareness and prevention efforts centred around campaigns on safe sex remain central in the government’s current policy towards HIV/AIDS (4).

The recent public debate in South Africa on the relationship between poverty and HIV/AIDS has attracted considerable attention (5). Poverty stands to increase the vulnerability of women to HIV infection by resulting, among other things, in unsafe sexual practices, often due to a lack of knowledge, lack of access to means of protection, and inability to negotiate condom use with sexual partners as a result of entrenched gender roles and power relations (3,6-12). South African women are in a relatively disadvantaged position compared to men. The female economic activity rate is 59% of the male rate; women on average earn less than half of what men earn, and less than a third of seats in parliament is occupied by women, despite gender differentials in literacy levels and relatively small educational enrollment (13).

The main research question here is whether poor women are less likely to be informed about HIV/AIDS and more likely to engage in risky sexual behaviour, thereby increasing their vulnerability to HIV infection. Evidence from other developing countries suggests that poorer women are more likely to have a non-regular sexual partner and that condom use with non-regular partners is significantly lower among poorer women (14). Other works have shown risky sexual behaviour to be associated with higher socioeconomic status (14-16). Moreover, there is limited evidence within individual countries of a negative association between the prevalence of HIV and socioeconomic status (9),
although cross-country studies show that the prevalence of HIV increases as per capita income declines (6,17).

The study explored the relationship among poverty, knowledge about HIV/AIDS, and risky sexual behaviour.

**MATERIALS AND METHODS**

Risky sexual behaviour was defined as women having had last sex with a casual acquaintance, someone they have just met, or a commercial sex worker, and not having protected themselves against possible HIV infection by using a condom during last sex, even though they knew about HIV/AIDS and the ways in which to protect themselves from the transmission of the virus.

Data for this study were drawn from the 1998 South African Demographic and Health Survey (SADHS). The survey represents a nationally-representative probability sample of 11,735 women aged 15-49 years (18-19). The DHS traditionally does not include questions on income and expenditure.

Asset index was employed to quantify differences in socioeconomic status. The index has been shown to represent an internally-coherent, robust, and comparable measure of poverty (20). Women were assigned the score on the asset index for the particular household to which they belong. Scores on the asset index were divided into population quintiles, with comparisons of select indicators being made across these wealth quintiles. Results were adjusted for differences in age, population group, and place of residence and allow for the sampling design of the survey. The svylogit and adjust commands in Stata version 7 were employed to calculate the proportion of women in each wealth quintile exhibiting those characteristics indicative of risky sexual behaviour. Following this, concentration index was calculated for each of these variables. The concentration index reflects the extent to which a particular health outcome is distributed unequally across the five wealth quintiles. An index of -1 and +1 respectively means that all ill health is concentrated in the most disadvantaged as opposed to the most advantaged woman in the population, with zero denoting complete equality (21-24). Such analysis, however, has certain limitations. The analysis is only descriptive and cannot be employed in an analysis of the causal relationship among poverty, risky sexual behaviour, and vulnerability to HIV infection. Such analysis also provides only an economic perspective on poverty and does not include parameters of social exclusion, such as gender or ethnicity, in quantifying socioeconomic status (22,25).

**RESULTS**

On average, 97.4 women indicated that they were aware of HIV/AIDS, of which 95.6% were knowledgeable about the sexual transmission routes of the HIV (Table). Of those women who were aware of HIV/AIDS and knowledgeable

| Table. | HIV/AIDS, poverty, and risky sexual behaviour in South Africa (1998) |
|---|---|---|---|---|---|
| Indicator | Wealth quintile | Average | Concentration index |
| | 1 | 2 | 3 | 4 | 5 | |
| Aware of HIV/AIDS | Percentage | 94.8 | 96.7 | 97.4 | 98.3 | 99.7 | 97.4 | 0.00917* |
| Sample (n) | 2,254 | 2,236 | 2,427 | 2,386 | 2,081 | 11,384 |
| Also aware of the sexual transmission routes of the HIV | Percentage | 91.3 | 95.4 | 96.2 | 97.1 | 97.8 | 95.6 | 0.01196* |
| Sample (n) | 2,074 | 2,116 | 2,335 | 2,337 | 2,071 | 10,933 |
| Also have had last sex with a casual acquaintance, someone they have just met, or a commercial sex worker | Percentage | 3.6 | 3.4 | 4.7 | 3.1 | 2.8 | 3.5 | -0.04622 |
| Sample (n) | 1,810 | 1,967 | 2,201 | 2,246 | 2,028 | 10,252 |
| Also have not used condom at last sex | Percentage | 81.7 | 80.8 | 80.0 | 75.8 | 80.8 | 79.5 | -0.01007 |
| Sample (n) | 79 | 97 | 161 | 112 | 45 | 494 |

* Results were adjusted for age, place of residence, and population group. Averages were calculated by weighting the quintile rate for the particular indicator by the proportion of the total number of individuals at risk in that specific quintile. Index values with an asterisk differ significantly from zero at the 95% level (p<0.05)
about the sexual transmission routes of the virus, only 2.8% had had last sex with a casual acquaintance, someone they have just met, or a commercial sex worker. Yet, 80.8% of these women who had last sex with a casual acquaintance were engaged in risky sex, i.e. did not use a condom during last sex.

A straight comparison of these indicators across the wealth quintiles suggests that poor women were indeed less likely to be knowledgeable about HIV/AIDS or the sexual transmission routes of the virus and to engage in risky sexual behaviour. 94.8% and 99.7% of the women, respectively, in the bottom and top quintiles were aware of HIV/AIDS, while 91.3% and 97.8% respectively were aware of the sexual transmission routes of HIV. Nearly 82% of the women in the bottom quintile did not use a condom when having had last sexual intercourse with a casual acquaintance, someone they have just met, or a commercial sex worker, compared to 80.8% of the women in the top quintile. The concentration index was the test of the significance of these socioeconomic inequalities.

In the case of the percentage of women having the appropriate knowledge on HIV/AIDS to protect themselves against the spread of the virus, the concentration index took on a positive value, which means that the distribution favours women in more affluent households. The concentration index for having engaged in risky sexual behaviour was negative, which means that poorer women are more likely to have engaged in risky sexual behaviour compared to women in more affluent households. However, only the former concentration indices (i.e. for the knowledge outcomes) differed significantly from zero (p<0.10), while the latter estimate (i.e. for risky sexual behaviour or lack of condom use) did not statistically differ significantly from zero. In addition, the concentration index values were all relatively low, taking on values of 0.05 or less.

**DISCUSSION**

The findings of the study suggest that knowledge is not being translated into appropriate changes in sexual behaviour. Although only a relatively small percentage of women who were knowledgeable about protecting themselves against HIV/AIDS had risky sex. A relatively large proportion of these women did not actually protect themselves by using a condom. Knowledge, attitude, practice and belief studies on HIV/AIDS substantiate that South Africans, in general, are aware of HIV/AIDS, yet do not translate this awareness into behaviour change (26-29). Some caution, however, is necessary in interpreting these results, given that the way in which these questions were asked during the survey does not allow one to determine whether the risky sexual encounter, in fact, postdates the acquiring of knowledge on HIV/AIDS. Moreover, questions about sexual behaviour are sensitive and likely to represent an under-reporting of the percentage of women who, in fact, are engaged in risky sexual behaviour. In addition, more educated women may be over-reporting on condom use, given their superior knowledge of HIV/AIDS.

There is little evidence that poverty is associated with risky sexual behaviour, although poorer women are slightly less likely to have necessary knowledge on HIV/AIDS, which, of course, in itself increases the vulnerability of poor women to HIV. The relatively small health gradients may reflect the limitations of the crude nature of the knowledge questions and of population-based surveys in collection of information on sexual behaviour. However, it may also mean that women, in general, are at risk of HIV infection, which would attest to the reported indiscriminate nature of the HIV/AIDS epidemic. More work is required to establish how specific factors other than knowledge on HIV/AIDS and socioeconomic status stand to enhance the vulnerability of women to HIV/AIDS, including gender and power relations, violence and coercion, and negative perceptions about condom use.

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