

ORIGINAL RESEARCH ARTICLE

Age at sexual debut: A determinant of multiple partnership among South African youth

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ABSTRACT

Age at sexual debut is an important determinant of HIV infection. The paper investigates the effects of age at sexual debut on sexual behaviour among South African youth. Among 2 875 respondents who ever had sexual intercourse, 39% had early sexual debut (sexual debut at age 16 years and below). Males (44.6%) were significantly more likely than females (35.1%) to report early sexual debut (odds ratio (OR)=1.45, p-value <0.001). Multiple sexual partners are significantly more common among those that had early sexual debut (10.4% vs. 4.8%) than those who had late sexual debut, (OR=2.29, p-value<0.001). Those aged 15 to 19 years were 1.4 times more likely to report multiple partners compared to those aged 20 to 24 years. Delaying sexual debut is a strategy many national programmes are promoting. The results of this study provide additional arguments to support such initiatives and show the need to strengthen intervention targeting youth (*Afr. J. Reprod. Health* 2010; 14[2]:47-54).

RÉSUMÉ

Age lors du rapport sexuel initial : un déterminant des partenaires multiples chez la jeunesse de l'Afrique du sud. L'âge lors du rapport sexuel initial est un déterminant de l'infection du VIH. L'article étudie les effets de l'âge lors du rapport sexuel initial sur le comportement sexuel chez la jeunesse de l'Afrique du sud. Parmi les 2875 répondants qui n'ont jamais eu des rapports sexuels, 39% ont eu des rapports sexuels initiaux précoces (rapport sexuel initial à l'âge de 16 ans ou au – dessous). Les mâles (44,6%) avaient beaucoup plus de possibilité que les femmes (35,1%) de signaler le rapport sexuel initial précoce (l'indice de cote (IC) = 1,45, valeur – p < 0,001). Les partenaires sexuels multiples sont considérablement plus communs chez ceux qui ont eu des rapports sexuels initiaux précoces (10,4% contre 4,8%) que ceux qui ont eu des rapports sexuels tardifs (IC = 2,29, valeur – p < 0,001). Ceux qui ont 15 ans jusqu'à 19 ans avaient 1,4 fois la possibilité de signaler d'avoir des partenaires multiples par rapport à ceux qui ont entre 20 et 24 ans. Le rapport sexuel initial tardif est une stratégie que beaucoup de programmes nationaux encouragent. Les résultats de cette étude fournissent davantage des arguments qui soutiennent telles initiatives et montrent la nécessité de renforcer l'intervention qui vise la jeunesse (*Afr. J. Reprod. Health* 2010; 14[2]:47-54).

KEYWORDS: Sexual debut, HIV, multiple sexual partners, determinants, risky sexual behaviour.

INTRODUCTION

HIV infection continues relentlessly to be a public health concern in South Africa¹⁻². Multiple concurrent sexual partnership and high rate of partner acquisition are important determinants of heterosexual HIV transmission³⁻⁴. Age at sexual debut is an important indicator for exposure to heterosexual HIV transmission. In the context of HIV/AIDS pandemic, monitoring of trends in age at sexual debut has become increasingly important, especially among youth⁵. Studies showed that early sexual debut is associated with increased likelihood of risky sexual behaviour later in life⁶⁻⁸. In Uganda, a rapid increase in age at sexual debut was considered a major contributing factor in the observed decline in HIV prevalence⁹.

In South Africa, studies have reported on age at sexual debut¹⁰⁻¹². These studies have focused specifically on young males and young females. Males who reported early sexual debut indicated that they were not ready for sex at their sexual debut and did not know their partner well¹⁰. Condoms are often less likely to be used at sexual debut especially at young age. Early sexual debut, especially among men, acts as a determining factor for high-risk sexual behaviour at a later stage^{10,13}.

Few studies have reported on the relationship between age at sexual debut and risky behaviour at a national level in South Africa¹⁴⁻¹⁵. Most studies have focused on specific societies or geographical locations^{10,11}. In UK, a study found that those who had early sexual debut were more likely to have two or more sexual partners in the past 12 months and 10 or more lifetime partners¹⁶. Similar results are observed in developing countries^{7,8,13}. These studies look at the number of partners in the past twelve months or more and extra marital relationships later in life in relation to age at sexual debut. The overall purpose of this paper is to investigate the effects of age at sexual debut on the number of current sexual partners among youth aged 15 to 24 years in South Africa

using data from a nationally representative second - generation HIV surveillance survey. The secondary objective of this paper is to provide evidence to the HIV/AIDS and STI strategic plan for South Africa 2007 to 2011 on how sexual debut determines sexual behaviour, so that relevant and appropriate interventions can be implemented for young South Africans and other similar societies¹⁷.

MATERIALS AND METHODS

In 2005, a nationally representative second-generation HIV prevalence and incidence survey was conducted in South Africa¹. A multi-stage random sampling design was used to randomly select at most 3 respondents aged 2 years and above in each household. In the first stage, a sample of 1 000 enumerator areas (EAs) were selected from a sampling frame probability proportional to size with the number of households in each EA used as a measure of size. In each EA a cluster of 15 households was randomly selected. Finally, in each household one individual aged 2 to 14 years, 15 to 24 and 25 and above was randomly selected. A total of 23, 275 people agreed to participate in the survey. Structured questionnaires were used to collect information and covered, among others, demographic, socio-economic, sexual behavioural characteristics, HIV risk perception, communication and level of knowledge of HIV.¹ Recently retired nurses were trained and used to conduct interviews. A further 15, 851 consented to be tested for HIV using dried blood spot (DBS). The focus of this paper is on 5, 255 individuals aged 15 to 24 who agreed to be interviewed. Most of the analysis in this paper considered only 15 to 24 year-olds who were sexually active.

Various socio-demographic and sexual behavioural determinants were solicited from the respondents. These included age; sex; race; educational level; age at sexual debut 'how old were you when you had sex for the first time?' age of the partner at sexual debut, number of current sexual partners and condom usage. Sexual debut was considered early if it occurred at age 16 years or younger and late otherwise. The main outcome of the study is a binary indicator of 'currently having multiple partners' considered as high risk if currently has more than one sexual partner and less risky otherwise.

Univariate associations between risky sexual behaviour and explanatory variables were examined using SAS version 9.1 (SAS Institute, Cary, NC, USA). Variables that were significant ($p\text{-value}\leq 0.05$) in the univariate analysis, based on the likelihood ratio test, were included in the multivariate logistic regression model. The 95% confidence intervals

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(CIs) are reported. Odds ratio (OR) was used to interpret the strength and direction of association.

Ethical approval for conducting the study was obtained from the Human Sciences Research Council's Ethics Committee. Informed consent from the participant was obtained separately for agreeing to participate in the interview and for providing a DBS specimen for HIV testing.

RESULTS

A representative sample of 5, 255 individuals aged 15 to 24 years (44% males and 56% females) participated in the study. A total of 2, 874 (55%) indicated that they have ever had a sexual intercourse. Of those that have ever had sexual intercourse, 41% were males and 59% were females; 39% indicated that they experienced early sexual debut (sexual debut at age 16 years and below). Males (44.6%) were significantly more likely than females (35.1%) to report early sexual debut (OR=1.45, p-value<0.001). Africans (42.2%), Coloureds (37.4%) were significantly more likely than Whites and Asians combined (20.2%) to report early sexual debut. Young youth (15 to 19 years) were significantly more likely to report early sexual debut (62.5%) than older youth (20 to 24 years) with 28.8%, p-value<0.001.

Among those who had early sexual debut, 91.9% had sex with sexual partners whose age difference was within 0 to 5 years from their age. Males were significantly more likely to have partners within 0 to 5 years of their age than females. Only 40.8% of those who had early sexual debut used a condom at sexual debut whilst 52.5% among those who had late sexual debut used a condom at sexual debut. The odds of using a condom at sexual debut were significantly higher among those who had late sexual debut (OR=1.20, p-value<0.001) than those who had early sexual debut. More males reported condom use at sexual debut than females (49.8% vs 46.6%). There was no significant difference in HIV prevalence by whether sexual debut was early or delayed. However, females were significantly more (12.6%) likely to be infected with HIV than males (3.9%). Among

males, those who had early sexual debut were slightly more likely to be infected with HIV than those who had delayed sexual debut, but this was not statistically significant. Similar results were observed among females.

Reporting of multiple partnerships is an important indicator of high risk in the fight against the spread of HIV. In this study, 200 (3.8%) of the youth indicated that they currently have more than one sexual partners. Males were eight-times more likely than females to have multiple sexual partners (Table 1). Those who reported multiple sexual partners were more (14.5%) likely to be infected with HIV than those who currently had one or no sexual partner (8.6%), p-value = 0.014.

Reporting of multiple sexual partners was more common among Africans (7.7%) than any other race and least among Whites and Asians combined (2.9%). Those aged 15 to 19 years were more likely to report multiple partners than those aged 20 to 24. Youth with secondary or less educational level were more likely to report multiple partners than those with higher levels of education, Table 1. The reporting of multiple sexual partners did not vary by genotype. However, those with primary or no education were twice as likely to report multiple sexual partners compared to those that had high school or above level of education.

Those who had early sexual debut were significantly more likely to have multiple partners than those who had late sexual debut (OR=2.29, p-value<0.001). Significantly more males who had early sexual debut reported multiple sexual partners than females who had early sexual debut (19.4% vs. 2.5%, p-value<0.001). Comparing males and females who had early and those who had late sexual debut, males who had early sexual debut were two times more likely to report multiple partners than males who had late sexual debut (OR=2.0, 95% CI: 1.49-2.67). Similarly, females who had early sexual debut were more likely (2.5%) to report multiple partners than females who had late sexual debut

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Table 1. Univariate analysis of potential determinants of multiple partnerships.

Variable	Total	Multiple partnerships (%)	OR [95%CI]
Sex of respondent			
Male	1168	14.0	7.54 [5.21 – 10.90]
Female	1697	2.1	1
Race			
African	2043	7.7	2.76[1.39 - 5.45]
Coloured	511	6.7	2.36[1.12 - 4.99]
Indian and Whites	307	2.9	1
Current age in years			
15 to 19	865	8.6	1.39[1.03 – 1.88]
20 to 24	2000	6.7	1
Locality type			
Urban formal	1370	6.4	1.08 [0.64 – 1.82]
Urban informal	389	6.7	1.13 [0.61 – 2.09]
Rural informal (tribal)	805	8.5	1.45 [0.85 - 2.48]
Rural formal	301	6.0	1
Current educational level			
Primary or no school	370	10.5	2.08 [1.37 - 3.20]
Secondary	1376	7.4	1.43 [1.02 - 1.98]
High school and above	1109	5.3	1
Age at sexual debut (in years)			
16 years and younger	1116	10.4	2.29 [1.72 - 3.08]
17 years and over	1749	4.8	1
Marital status			
Never married	2497	7.9	4.23 [1.56 - 11.43]
Ever married	366	1.1	1
Have you ever used a condom			
Yes	2181	7.8	1
No	663	3.9	0.48 [0.32 - 0.73]
Did you use condom at sexual debut			
Yes	1365	6.4	0.83 [0.62 - 1.11]
No	1486	7.6	1
Did you use condom last time you had sex			
Yes	1602	8.7	1.89 [1.38 - 2.59]
No	1214	4.8	1

OR=Odds ratio; 95%CI=95% confidence intervals.

(1.9%). However, this was not statistically significant (OR=1.32, p-value=0.460). Those that were never married were more than four times likely (OR=4.23, p-value=0.005) to report multiple partner compared to those that

were ever married, Table 1.

Other than current multiple sexual partners, 19.7% of those who had early sexual debut had more than one partner in the last twelve months compared to 8.9% among

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Table 2. Multivariate logistic regression model of risky sexual behaviour.

Variable	Model I OR (*p-value)	Model II OR (*p-value)	Model III OR (*p-value)
Age at sexual debut (in years)			
16 years and younger	1.84(<0.001)	2.26 (<0.001)	1.84(<0.001)
17 years and over	1	1	1
Sex of respondent			
Male	7.65(<0.001)		6.37(<0.001)
Female	1		1
Race			
African	2.65 (0.009)		2.59(0.0081)
Coloured	2.14 (0.053)		2.15(0.0516)
White and Asian	1		1
Current age in years			
15 to 19	0.96 (0.795)		
20 to 24	1		
Locality type			
Urban informal	1.37(0.345)		
Urban formal	1.59(0.113)		
Rural informal (tribal)	1.72(0.067)		
Rural formal	1		
Current educational level			
Primary or no school	2.06(0.003)		
Secondary	1.19(0.335)		
High school and above	1		
Marital status			
Yes		6.05 (0.001)	3.44 (0.0175)
No		1	1
Did you use condom at sexual debut			
Yes		0.62 (0.004)	0.71 (0.0403)
No		1	1
Have you ever used a condom			
Yes		1.88(0.023)	1.95(0.0045)
No		1	1
Did you use condom the last time you had sex			
Yes		1.40 (0.108)	
No		1	

OR=Odds ratio; *= χ^2 p-value

those that had late sexual debut. Thus, those who had early sexual debut were twice as likely to have had more than one partner in the last twelve months as those who had later sexual debut (OR=2.2, p-value < 0.001).

Table 2 presents multivariate logistic regression models of multiple partnership status, socio-demographic and sexual behavioural factors. Model I presents sexual debut and other socio-demographic factors as

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determinants of multiple sexual partners. Model II focuses on sexual debut and other sexual behavioural factors. The full Model III adds controls for a number of socio-demographic and sexual behavioural determinants to determine whether they have any appreciable effects on multiple partnership status. The likelihood ratio test for inclusion of these extra variables was significant at 5% level.

Sexual debut, sex, race and other sexual behavioural factors are important determinants of having multiple sexual partners. The odds of having multiple sexual partners if you used a condom at sexual debut are less than the odds of having multiple sexual partners if you did not use a condom at sexual debut. This was consistent in all models explored. For all other factors, the odds of having multiple partners were consistently and significantly higher for those who had early sexual debut, males, Africans, Coloureds, never married and ever used a condom with reference to respective reference category. The effect of some variables was slightly reduced when adjusting for other variables in the model. But the direction of the effect did not change.

DISCUSSION

In this study, sexual debut occurred at the age of 16 and younger among 39% of respondents with 44.6% males and 35.1% females. This is higher than 43.8% of males and 25.8% of females who reported first sex at the age of 16 or younger in another South African survey of youth²¹ and higher (55%) than 47% among 15 to 19 year-old South Africans who reported that they have ever had sexual intercourse.¹⁸ The findings for males in this study (44.6%) are more than thrice the 13.1% of men aged 15 to 24 who reported their first sexual relationship before age 15 in another survey¹⁰. However, other South African studies indicate high levels of childhood sexual abuse¹⁹.

A survey on early sexual debut among young men in rural South Africa found that condom use at first sex among men who ini-

tiated sex was 19%¹⁰. This is lower than 49.8% for men, and even 46.6% for women, in this study. Early sexual debut especially with lack of condom use is detrimental and can lead to HIV infection. This is more critical since in most cases sexual debut is often unprotected, unguided and uninformed.²⁰ High rate of early sexual debut among Africans and Coloureds shared some light into the high HIV prevalence among these population groups in South Africa^{1,2}. Coincidentally, these race groups also have the highest rates of HIV transmission¹. This indicates the need to strengthen prevention strategies such as delaying sexual debut among these racial groups.

Only 3.8% of the participants in this study indicated that they currently have more than one sexual partner. This is lower than 12.6% of males and 4.8% of females who reported having two or more partners in a survey of South African youth²¹. Having multiple concurrent sexual partners directly contribute to heterosexual transmission of HIV. In this study, those who had early sexual debut were more likely to report multiple sexual partners. Those who had multiple sexual partners were 79% more likely to be infected with HIV. This is of concern since most people are not aware of their HIV status and thus likely to unknowingly infect others¹. Other than current sexual partners, early sexual debut is also associated with high likelihood of having more than one partner in the last 12 months. The reporting of multiple sexual partners among those with early sexual debut is consistent with findings from other studies both in Africa and abroad^{10,13,16}.

In Model I, being better educated was associated with decreased probability of having multiple sexual partners suggesting that educated people are more restrictive in their sexual relations. In other studies, this was more the case among educated women than educated men⁸. However, in the model that included all other variables, educational level and locality type were not statistically significant.

Males were eight-times more likely than

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females to report multiple partners. This is slightly lower than in Harrison et al, where young men in early sexual debut were 10 times more likely to have had multiple partners¹⁰. This reinforces evidence that early sexual experiences may determine sexual risk behaviours throughout the life course¹³. Importantly, risk behaviours, once established, may be difficult to change. However, condom use is also high among males than females in this survey.

There are some limitations however that need to be highlighted. The limitations include possible bias in reporting of sexual behaviours, exaggeration and under reporting of sexual activity and number of sexual partners²². In general, men tend to overstate their sexual behaviour whilst women tend to understate theirs due to socio-cultural perceptions. Furthermore, the recall of age at sexual debut especially for older youth might have contributed to some reporting bias.

CONCLUSION AND RECOMMENDATIONS

The analysis using a nationally representative second-generation HIV survey data from South Africa shows that people who had sexual debut at an early age were more likely to have multiple partners at a later stage. Those who delayed sexual intercourse were less likely to report currently having more than one sexual partner. The results are consistent with those reported in other studies^{8,10,13}.

It is somewhat encouraging that those who have multiple partners were more likely to have ever used a condom. However, consistency of condom use with sexual partners is the ultimate objective in the reduction of HIV transmission. The odds of having multiple partners if you used a condom at sexual debut are less than those people who did not use a condom at sexual debut. This highlights some important aspects of cautious sexual life from a group of youth in the survey.

Delaying age at sexual debut is a strategy many national programmes are promoting. Some national programs have adopted the

use of school-based strategies to reduce the proportion of young people having sexual debut below a certain age²³⁻²⁴. The results of this study provide additional arguments to support such initiatives. The study suggests that effective behavioural interventions at early stages may be protective against HIV infection throughout the life course. The findings of this study are further acknowledged in the National Strategic Plan for HIV and AIDS and STIs (NSP)¹³, which indicate that early sexual debut is significantly associated with increased risk of HIV infection. The results further emphasize the importance of addressing goals of NSP and UNGASS global targets of reducing the incidence of HIV among young people.

Findings in this study highlight poor or lack of preparation for sexual activity among young South Africans. Further research should be directed towards better understanding how young people perceive their risk in early relationships and sexual experiences, and to the design of interventions before sexual debut. Interventions for preadolescent young men and women should emphasise delay in sexual activity, fidelity in relationships and encourage consistent condom use.

ACKNOWLEDGEMENTS

Authors acknowledge generous funding received from Nelson Mandela Foundation, Swiss Agency for Development and Cooperation, USA's Centers for Disease Control and Prevention and the Human Sciences Research Council. We wish to thank our colleagues and collaborators who participated in the survey. Finally, we wish to sincerely thank all the people of South Africa who willingly opened their doors and gave researchers some of the most private information and agreed to also provide specimen for HIV testing.

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