Factors influencing first sexual intercourse for South African youth

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Abstract

Aims: Past studies on age at first sexual intercourse among South African youth have been largely cross-sectional and lack theoretical basis. This paper investigates factors influencing first sexual intercourse among South African youth using Waves 1-3 of Cape Area Panel Study (CAPS) data, based on Social Cognitive Theory. **Methods:** This quantitative data was analysed using Stata 12, and employs descriptive statistics, correlation and Cox Proportional Hazard Regression models. **Results:** The results showed that age, sex, racial origin, having attained secondary or tertiary educational level, and not attending school wielded a delaying effect on the rate of transition to first sexual intercourse at the three waves. On the other hand, not being happy about life, being from single-parent or both-parents family structures exerted a positive effect on the rate of transition into first sexual intercourse in Wave 1. Low level of happiness significantly encouraged the respondents to initiate their first sexual intercourse during the second wave. At the third wave, having low educational aspiration associated significantly with higher age at first sexual intercourse in 2005. **Conclusions:** Based on the results, this study concluded that personal, socio-economic/demographic factors were mostly important as far as the timing of first sexual intercourse is concerned.

Key Words: Age at first sex, determinants, youths, Cape Town, South Africa

Background

Premarital adolescent sexual activity is common around the world and early age at first sexual encounter has been found to pose both social and public health challenges especially in the developing nations. The challenges include issues such as teenage premarital and unwanted pregnancy as a result of non-use of modern, reliable method of contraception, and childbirth caused by inability of very young adolescents to negotiate safe sex, induced abortion, as well as rising levels of sexually transmitted infections including HIV and AIDS (McGrath et al. 2009; Uthman 2008). These challenges are real in South Africa and call for further investigation of the factors associated with early age at first sexual intercourse. Age at first sexual debut has been found to be an important indicator of sexual risk because the age at which one starts sexual activity marks the beginning of exposure to sexually-transmitted infections including HIV (Gregson et al. 2002 cited in Harrison et al. 2005), and it is a key indicator for monitoring response to the HIV epidemic among young people (Harrison et al. 2005).

South Africa's AIDS epidemic is one of the worst in the world and it shows no evidence of a serious decline. Early sexual debut has been found to be common in South Africa (Biddlecom and

Bakilana 2003; McGrath et al. 2009), as it has been found in other parts of the world, and when it is outside of stable relationships increases the likelihood of HIV infection, as well as unplanned and unwanted pregnancy (Miller et al. 1997; WHO 1998). Also, while South Africa's total fertility rate is relatively low compared to other African countries, fertility among adolescent and young adult females is high (Biddlecom and Bakilana 2003). However, many of the studies on age at first sexual intercourse in South Africa have been largely cross-sectional and descriptive. Hence, this study used panel population-based data sets to investigate factors associated with age at first sexual intercourse among adolescents and young adults aged 14-22 years in 2002 and followed through to 2005 in the Cape Area of South Africa.

The hypotheses tested in this paper are: Adolescents and young adults with negative aspirations and attitudes toward education are more likely to initiate sexual intercourse earlier than their counterparts with positive educational aspirations. Also, community's racial composition is expected to influence adolescents and young adults' timing of first sexual intercourse. Moreover, adolescents and young adults' participating in various institutional activities will likely have higher age at first sexual debut. Adolescents and young adults with external monetary social support are less likely to initiate sexual intercourse early when compared to their counterparts with non-monetary social capital.

Materials and Methods

The data analysis in this paper is restricted to the adolescents and young adults aged 14-22 years in 2002 and who participated completely in the three waves of data collection between 2002 and 2005 (N=3,210) although wave 2 data collection exercise was broken into two parts. This was done to enable us answer the research questions and the stated objectives in the study. This study makes use of the first three waves (Waves 1-3) of secondary data collected from a Cape Area Panel Study (CAPS) between 2002 and 2005. The Cape Area Panel Study (CAPS) is a longitudinal study of the lives of about 4,800 adolescents and young adults randomly selected in metropolitan Cape Town, South Africa. The baseline wave of CAPS surveyed 4,752 young adults in 3,304 households representing 89,695 calendar-years. CAPS covers a range of aspects of adolescence, including especially schooling, entry into the labour market (i.e. employment, unemployment and job search), sexual and reproductive health including use of contraception and types, and experiences within families and households, to examine the extent to which opportunities facing South Africans have changed since the end of apartheid and to investigate how poverty and inequality are reproduced across generations. Most data were collected from the young people themselves, but data were also collected from parents and other older household members. The data on individuals and households were combined with community- and school-level data (Lam et al. 2006).

Statistical Methods

The data for this study was analysed using Stata/SE 12 analytical package (StataCorp. 2011). Some of the variables of interest were recoded appropriately and other composite variables were generated based on a number of relevant questions asked during the study. This was done to generate responses deemed useful for the kind of analysis proposed. Also, the variable age at first sexual intercourse based on their sexual activity status at the baseline through the third wave had to be cleaned because of inconsistent responses and the manner in which the variable was coded at the

third wave in 2005. For the modelling of timing of first sexual intercourse (age at first sexual intercourse), Cox proportional hazard regression model was used. Cox Proportional Hazard Model also known as Cox model is a multivariate technique for analysing the effect of two or more metric and/or non-metric variables on survival. It is the most general of the regression models because it is not based on any assumptions concerning the nature or shape of the underlying survival distribution. The model assumes that the underlying hazard rate (rather than survival time) is a function of the independent variables (otherwise called the covariates or risk factors); no assumptions are made about the nature or shape of the hazard function. Thus, in a sense, Cox's regression model may be considered to be a nonparametric method (StatSoft n.d.).

Cox Proportional Hazard Model is of the form below:

$$\lambda_i(t) = \lambda_0(t)e^{\Sigma\beta xi}$$

Where λ_i is the rate at which individual i will transition to first sexual intercourse during the risk period, given that he or she was a virgin at time t. On the right-hand side of the equation, λ_0 is the baseline hazard rate at time t for all individuals in the sample when all covariates are 0. In Cox proportional hazard models, λ_0 is undefined. β is a vector of parameters associated with a vector of covariates, X_i, which contain the independent, intermediate and control variables. For a given covariate, the change in the baseline hazard is given by exp (β) (StatSoft n.d.). Cox's proportional hazards modelling has the advantages of being a robust semi-parametric method of calculating the probabilities of survival while simultaneously controlling for other possible confounding variables, and other attractive features include: the relative risk type measure of association, no parametric assumptions, the use of the partial likelihood function, and the creation of survival function estimates (Smith and Smith n.d). The Cox proportional hazard model is based on the assumption that changes in the levels of the independent variables will produce proportionate changes in the hazard function, independent of time (Babalola 2004). The parameters of interest are variables ranging from individual levels to neighbourhood/community levels thought to influence the adolescents and young adults' transition into first sexual activity/intercourse in the study area between 2002 and 2005.

To understand the zero-order relationship between the independent/intermediate variables of interest and age at first sexual intercourse, survival analysis was carried out using Cox proportional hazard model. Hazard ratios greater than 1 represent a positive effect on the rate of transition to first sexual intercourse, and hazard ratios less than 1 signify a delaying effect on the rate of transition to first sexual intercourse, while hazard ratios equal to 1 means that the independent/intermediate variable does not have any effect on survival. The dependent variable for this model is age at first sexual intercourse supplied in single years by the adolescents and young adults in the study.

Results

The mean age of the respondents ranged between 17 years in 2002 and 20 years in 2005 with generally more female and coloured sample. A high proportion of the respondents attained secondary education level at the three waves with a high proportion dropping out of job between 2002 and 2005. Generally, the respondents attained puberty around age 14 while a high proportion had high self-efficacy rating with low risk self-assessment of contracting HIV at the three waves of data collection. Although majority believed that HIV is preventable, more than half of the respondents did not believe that abstinence can protect against HIV while majority seem to be conservative about young people engaging in premarital sexual intercourse. The young respondents had high educational aspiration and almost half of the respondents expected to live long (up to age 80) while the remaining of them either expected to die before age 80 or not sure of living long to old age (Table not presented).

With regards to the socio-structural factors, more than half were Christians in 2002, the non-users of alcohol declined between 2002 and 2005 while users increased between wave 1 and wave 3. More than half of the respondents were either in no-parent or single-parent family structure in waves 1 and 3 respectively, while a high proportion of the respondents had problematic school environment in 2002. More than half were in school between wave 1 and wave 2, while the proportion dropped to a little above one-third in wave 3 with a high proportion having positive school/education attitude in 2002. A high proportion of the young people interviewed reported that their first sexual intercourse was consensual while close to half of the respondents lived in predominantly African or Coloured neighbourhoods at the baseline in 2002. More than half of the interviewee participated in prosocial activities as at the baseline, had external monetary support, lived in predominantly poor neighbourhoods and lived in non-problematic neighbourhoods while growing up. Majority of the respondents lived in urban place of residence while growing up and close to half had most or all of their friends/peers being sexually active at the third wave of data collection in 2005. The median age at first sexual intercourse for the studied sample plateaued at 16 years with a slight difference of one year in favour of females when the sex of the respondents was controlled for.

Conclusion: This study concluded that age at first sexual intercourse has not increased significantly in the study area and that personal, socio-economic/demographic factors were mostly important as far as the timing of first sexual intercourse among adolescents and young adults in Cape Town between 2002 and 2005 is concerned because consistently, being older, being a female, being of Coloured or White racial origin, and having secondary or tertiary level education demonstrated a delaying effect on the age at first sexual intercourse with sex differentials in relation to some of the other covariates. Some of the socio-structural factors were found to be relevant to all the respondents or to either of the sexes and wielded minimal influence on the timing of first sexual intercourse among the adolescents and young adults in the study area.
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