

## **Correlates of Sexual Initiation among Belizeans: Implications for HIV Risk**

### *Background and Significance*

The social meaning and significance of sexual initiation varies by culture, however, it remains a milestone in the physical and psychological development of both men and women throughout the world. Consequently, the timing of sexual debut is an important transition in a person's reproductive trajectory; it represents changes in interpersonal relationships and decision-making processes. Furthermore, the context within which it occurs can have immediate and far-reaching consequences for the individual. Sexual initiation heralds the onset of possible exposure to unexpected and undesirable reproductive outcomes such as unplanned pregnancies, sexually transmitted diseases including HIV, and even infertility. A fair amount of research have implicated early sexual debut as a factor in subsequent risky sex-related behaviours such as inconsistent condom use and increased number of lifetime partners. Actually, delaying sexual initiation has been credited as one of the behaviour changes that contributed to the decline of HIV in Uganda.

In many developed countries sexual debut typically occurs during adolescence; by age 20 usually about 80% of young adults are sexually experienced. Furthermore, countries of varied economic development are witnessing younger ages of sexual initiation with each subsequent generation. Globalization, advancing economic development, increased autonomy of women and the diminishing role of the church have been posited as social forces influencing this phenomenon. National boundaries are increasingly unable to constrain ideas, customs or behaviour as the vast apparatus of consumerism traverses the world. Thus, worldwide advances in human and economic development precipitate economic and cultural changes. Sexuality is increasingly commodified by advertising and prostitution, while new ideas governing acceptable behaviour that often conflicts with traditional mores are being diffused. Today's teenagers are inundated with media that simultaneously glorify sexual activity and minimize its consequences; they are drawn by their natural inclinations to test socially proscribed boundaries in communities facing loosening social and parental controls.

The onset of sexual activity is a salient issue in the developing world where large proportions of the populations are less than 20 years old. Belize is the only English speaking country in Central America with a population of about 250,000. Approximately 53% of her citizens have yet to complete their 20<sup>th</sup> birthday. Moreover, tourism, the major industry of Belize is growing exponentially, and the effects of globalization are diffusing throughout the nation. Current adolescents in Belize are being exposed to differing cultural values and sexual expectations, in a world saturated with media that glamorizes sexual activity hitherto unseen by their predecessors.

Despite being the least populated country in the region it has the unflattering distinction of having the highest HIV prevalence in Central America. Although no surveillance system to assess young adults' sexual experience or attitudes about sex exists in Belize, the escalation of the HIV/AIDS epidemic has attracted international researchers such as epidemiologists attempting to quantify the severity of the problem, as well as community health program planners designing health education programs to stave off the pace of the threat. However, little is known about the dynamics of sexual initiation and its attendant HIV risk behaviors among

Belizeans. The study will address the following questions: Is the timing of sexual debut in Belize influenced by selected demographic factors? Are Belizeans who report earlier sexual initiation more likely than others to develop and sustain patterns of sexual behaviors that continue to place them at risk for HIV?

According to a life-course perspective, culture defines the timing and contexts of life transitions. Thus as the frequency of the adoption of adult roles increase, the societal norms surrounding the acceptability of such behaviours also change to accommodate the behaviour shift. I have been unable to identify any research exploring the factors that influence the transition into sexual activity among Belizeans. Understanding the mechanisms that foster the transmission of HIV in this population is critical, considering that the country has limited resources and is faced with competing demands from other vital infrastructural needs. Informing our knowledge of the mechanisms underlying sexual initiation and the forces that influence subsequent sex-related risks is essential to Belize for the development of prevention efforts that meet the needs of its citizens.

## **Methods**

### *Data and Analytic Strategy*

The data presented in this study were obtained from the 1999 Family Health Survey conducted in Belize by the Central Statistical Office in collaboration with the Belize Family Life Association and the Ministry of Health. This endeavour represented the first Family Health Survey to include both men and women of Belize. A multi-stage, cluster sampling design, stratified by gender, targeted men 13 to 64 years and women of reproductive ages, 13 to 49 years. The survey instrument was similar in structure and purpose to the Demographic and Health Surveys. Respondents were interviewed in their homes by trained interviewers after giving consent for participation. Both married and unmarried participants were targeted. The items relevant to this study are those pertaining to the respondent's background, sexual history and behaviour pertaining to HIV/AIDS. Following the acquisition of background information, participants were questioned about their sexual experience and HIV knowledge. Sexually active respondents were asked to provide their age at sexual initiation and to indicate whether they used a condom at sexual debut, as well as their current condom use with any sexual partner. Additionally, participants who acknowledged awareness of HIV were questioned about their perceived vulnerability to the virus and any consequent sexual behaviour modifications they made in response to the epidemic.

The analytic strategy is to 1) explore the demographic factors that influence the age Belizeans transition into sexual activity; 2) discern the association between the timing of sexual debut and condom use at sexual initiation; 3) evaluate the effect of these cumulative factors on perceived vulnerability to HIV; 4) explore the effect these factors have on subsequent sexual behaviour changes to prevent HIV; and 5) detect the factors that influence current condom use among Belizeans.

The timing of sexual debut is being analysed by fitting a Cox regression model to the data of the participants included in this study (n= 3,896 females, 1,363 males). Preliminary model checking

diagnostics have indicated that the baseline hazard of sexual initiation is time dependent and inconstant. Consequently the Cox model will be allowed to include time varying coefficients of the variables that demonstrate this time dependent characteristic. Logistic regression models will be used to assess the remaining four objectives. The original covariates from the Cox regression, plus indicator variables of age at sexual debut will be used in all the subsequent models. A multinomial logistic regression will be fitted to the data assessing perceived vulnerability to HIV. This discrete outcome has three categories reflecting “no risk, little risk or a fair amount of risk” in contracting the disease. All analyses will be statistically adjusted to correct for lack of independence due to cluster sampling.

### *Correlates of Sexual Initiation and Implications for HIV Risk*

Due to the inherent temporal ambiguity associated with cross-sectional surveys, causal sequencing cannot be determined from the selected variables included in this study. However, any findings of cross-sectional relationships in this setting, consistent with evidence supported by other empirical studies are of programmatic import to health care decision-makers in Belize. The demographic correlates assessed by this study include ethnicity, age cohort, residential location, religious affiliation and education attainment.

Belize has four major ethnic groups: Mestizos, Creoles, Maya and Garifuna. Previous serological surveys have shown higher prevalence of Hepatitis B virus (HBV) among the Garifunas and Creoles. The route of transmission of HBV is identical to that of HIV. I expect to find earlier ages of sexual debut and less use of condoms at sexual initiation as well as more infrequent current condom use amongst these two ethnicities. Furthermore, Mayan societies, the original inhabitants of Belize, place a high value on fertility, encouraging early marriages of young girls. I anticipate the earliest transition into sexual activity to be among Mayan females. Similarly, the procreation imperative valued by Mayans will probably decrease the likelihood of using condoms both at sexual initiation and currently.

I expect the patterns of sexual initiation evidenced worldwide, to hold in Belize as well. Participants of more recent birth cohorts will transition into sexual activity at younger ages relative to their older counterparts. Additionally, they will probably be more likely to use condoms currently and at sexual debut since health promotional activities to prevent HIV were contemporaneous to their sexual initiation. I also anticipate the younger age cohorts to perceive themselves at risk for HIV and to have modified their sexual behaviour to prevent it.

The majority of Belizeans lives in rural communities, and there are six administrative districts. I expect to find younger sexual debut and more condom use among urban residents. Moreover, I anticipate a positive association between participants living in urban areas and perceived vulnerability to HIV; I expect these residents to modify their behaviour to prevent contracting it.

Religions have been very influential in defining morality and conditioning behavior throughout time. Sexual behavior may be constrained by religious institutions and their doctrines through adherence to a code of ethics and their attendant religious sanctions. Almost all the schools in Belize are denominationally affiliated with most being administered by the Catholic Church. Consequently, students are shepherded in the direction of conservative sexual values and

behaviors. I expect Catholics to have the latest transition into sexual activity; furthermore I anticipate they will be the least likely to use condoms due to their religious proscriptions.

A number of studies have supported education as a protective factor in delaying sexual activity. Education increases self-efficacy, self-esteem and socialization skills thus providing a buffering effect against early sexual initiation. Additionally, advances in education provide economic opportunities and may cultivate future-oriented sensibilities. Better-educated adolescents may be able to appreciate the health and economic advantages of smaller family sizes, and refrain from jeopardizing their futures by avoiding early or unprotected sexual activity. Although primary school education (first eight years) is compulsory for all school-aged children in Belize, the reality is that not all school-aged children attend schools. Belizeans not enrolled in school may have little incentive to delay sexual intercourse. Moreover, participants without a primary education may be less cognizant of the HIV epidemic and its threat. I expect Belizeans who have not completed primary school to initiate sexual activity at younger ages, to be less likely to use condoms, to not perceive themselves at risk for HIV, and neither to have modified their behavior to prevent contracting it.

The value of this study is that it is the first such exploration in the dynamics of sexual initiation and its effect on subsequent HIV risk among Belizeans. It will assist program planners in maximising limited resources by illuminating areas that can be targeted for HIV prevention. Being a cross-sectional study, the data does not support antecedence of many of the covariates. However, given that the transmission of HIV in Belize is primarily from two routes: sexual and vertical, coital debut is a necessary precursor and of critical importance. Better understanding of the causal dynamics of observed cross-sectional associations will require further research in Belize.