

https://dspace.org/

Ecological determinants of risky sexual behaviours among adolescents and young adults in Cape Town, South Africa: a cumulative risk factor approach

Muchiri, Evans Mwiti

2018

https://hdl.handle.net/10539/27096

Muchiri, Evans Mwiti (2018) Ecological determinants of risky sexual behaviours among adolescents and young adults in Cape Town, South Africa: a cumulative risk factor approach, University of the Witwatersrand, Johannesburg, https://hdl.handle.net/10539/27096

Downloaded from a DSpace repository. https://dspace.org/

Abstract

Context

South Africa is experiencing a youth bulge, and many demographers share the view that the country would experience a demographic dividend, by having a larger working population relative to the dependent population. A 'demographic dividend' is characterised by an accelerated economic growth that occurs when there is a growing proportion of productive people in the workforce compared to the dependent population. For a demographic dividend to occur, change in age structure takes place, and a significant decline in fertility is observed. Decrease in fertility and improving health can lead to a shift in age structure of a population, decreasing the ratio of dependent population. In the case of South Africa, with a total population estimated at 55 million in 2015, people aged between 15 and 35 years constituted 36% of the population, according to Statistics South Africa (StatsSA, 2015). However, low life expectancy occasioned by HIV and AIDS, and lost schooling time due to teenage pregnancies impacting on future productivity and earnings, makes it not obvious for South Africa to experience a demographic dividend. Besides, increasing mortality from AIDS related illnesses, and the impact of unwanted pregnancy on fertility, may have a strong bearing on outcomes relevant to demography and population studies.

Despite South African youth constituting less than 1% of the global youth (15-24 years) population, the country accounts for up to 15% of HIV youth population globally living with HIV according to the UNAIDS (UNAIDS, 2016). Increased mortality among adolescents and young adults living with HIV due to AIDS related illnesses reduces life expectancy that has important implications on demographic aspects of the population. Despite AIDS-related deaths among adults (15+ years) having been declining since the rollout of antiretroviral treatment (ART) in 2004, recent statistics from UNAIDS indicate that AIDS-related deaths

among adolescents may actually be increasing due to low uptake of ART treatment (UNAIDS, 2014).

While HIV is one of the unintended consequences of unprotected sex, unwanted pregnancy is another indicator of unprotected sexual activity. More than 30% of teenage girls in South Africa report experiencing pregnancy whose majority are unplanned (Jewkes, Morrell, & Christofides, 2009). In absolute numbers, more than 99,000 school attending teenagers fell pregnant in 2013, a rise since 2011 when 66,000 school attending teenage pregnancies were reported(StatsSA, 2013a). Maternal mortality and health implications related to childbearing is higher among teenage mothers compared to general population, because their reproductive systems have not fully developed, and struggle to deliver naturally. In South Africa, an estimated 36% of all maternal deaths occurred to teenage mothers even though they only accounted for 8% of all new births. Childbirth at a young age leads to health complications that may result in mortality and increases the risk of developing obstetric fistulae. Acquiring HIV infections and unintended underage pregnancy have significant contribution to morbidity, mortality and fertility, aspects that are relevant for demography and population studies field.

Globally, shift towards late marriage in many countries has led to an increase in premarital sexual activity (Blum, 2007). It has been reported that adolescents and young adults become sexually active in their teen years and rarely takes precaution to practice safe sex. Research has established a clear association between risky sexual behaviours of unprotected sex, early age at sex debut, and multiple and concurrent partnerships to increased risk of HIV infection and unwanted pregnancy (Ghebremichael, Larsen, & Paintsil, 2009; Pettifor, O'Brien, Macphail, Miller, & Rees, 2009; Pettifor, van der Straten, Dunbar, Shiboski, & Padian, 2004). Risky sexual behaviours are defined by the increased risk of a negative outcome of

contracting or transmitting disease or the occurrence of unwanted pregnancy. Research studies in South Africa have reported high levels of unsafe sexual practices among adolescents and young adults (Pettifor et al., 2009).

Previous studies have reported on correlates of risky sexual behaviours among adolescents and young adults, however, these studies mainly analysed individual level attributes using cross-sectional datasets (McHunu, Peltzer, Tutshana, & Seutlwadi, 2012; Onoya, Zuma, Zungu, Shisana, & Mehlomakhulu, 2015; Shisana et al., 2014; Zuma, Mzolo, & Makonko, 2011). Besides, studies of risky sexual behaviours among adolescents and young adults have mainly investigated the effect of risk factors studied in isolation. This study aims to add to existing literature by seeking to understand whether risk factors occurring at the individual, household, and community levels may have a cumulative effect.

Furthermore, analyses of risky sexual behaviours have mainly used cross-sectional datasets because of the complex nature of collecting longitudinal dataset for sexual behaviours. Cross-sectional analyses may inform on associations but are limited to making causal inferences and lack information on trends over time. Therefore, this study incorporated all factors at the individual, household, and community levels to investigate for significant determinants of risky sexual behaviours. Further, this study used a longitudinal approach to investigate on trends and determinants of risky sexual behaviours among adolescents and young adults, and assessed whether significant risk factors for risky sexual behaviours may have a cumulative effect is a timely contribution to literature. The cumulative risk model adopted in this research assumes that the effect of ecological risk factors act in a cumulative way; arguing that increasing risk factors present in the ecology of adolescents and young adults may correlate to an increasing likelihood of reporting outcomes of risk sexual behaviours.

Research on the cumulative risk model has only been reported in the United States of America and England which represent contexts of developed countries and has not been assessed before in Sub-Saharan Africa (Small & Luster, 1994). Therefore, results from testing the model in high HIV settings may add contribution to existing literature and may inform research in South Africa and sub-Saharan Africa. Understanding why adolescents and young adults in urban Cape Area, South Africa engage in risky sexual behaviours, and whether significant risk factors act cumulatively, would contribute immensely to the study of demography and population studies for both South Africa and the African continent. Findings from this thesis would inform on the design and implementation of effective interventions that may reduce the occurrence of risky sexual behaviours.

Data Sources and Methods

Data from the Cape Area Panel Study (CAPS) that enrolled 4,752 adolescents aged between 14 and 22 years in urban Cape Town, South Africa, were used to investigate trends and ecological determinants of risky sexual behaviours. The CAPS data were collected in waves of surveys with the baseline survey conducted in 2002 while the last recorded survey was in 2009. The CAPS sampling plan was to produce a household sample that was representative of households in urban Cape Town A young adult respondent was identified from a selected household and interviewed, and was similarly followed-up in subsequent survey waves, for updated responses. The surveys focused on a wide range of issues affecting the adolescents and young adults participating in the various waves of the surveys. These included school, work, household living arrangements, sexual behaviours and reproductive health. Further, the young adult sample was designed to produce a representative sample of the population aged 14 to 22 years in urban Cape Town. The Wave 1 survey was conducted in 2002, and subsequent surveys for Wave 2a/2b conducted in 2003/2004, Wave 3 in 2005, Wave 4 in

2006, and Wave 5 in 2009. A longitudinal analysis dataset was defined for outcomes of early age at sex debut, multiple sexual partnerships, and inconsistency in condom use. Baseline characteristics were defined from the baseline survey and were used to inform on factors that were significantly different for the binary outcomes during the follow-up period until survey Wave 5. Dependent variables were created as binary responses experienced during the follow-up, for early sexual debut, reporting multiple sexual partnerships, and consistency in the use of condoms where all analyses were conducted stratified by gender. An adapted ecological systems framework was used to organise risk factors according to levels of the ecology including factors at individual, household, and community levels.

Descriptive statistics were performed for baseline characteristics of the sample using frequencies and proportions. Bivariate analyses for the binary outcomes of risky sexual behaviours were performed, with differences between outcome groups assessed using Chi-square tests. The level of significance for all statistical tests, and univariate and multivariate models was set at $p<0.05$. A univariate and multivariate discriminant function analyses (DFA) was applied to identify risk factors that were significantly different between the binary outcome groups. The DFA expresses a dependent variable as a linear combination of independent variables that best explains differences between outcome groups. The DFA technique was used to predict a categorical dependent variable from continuous or binary responses and assumes the normality of the explanatory variables.

The study further applied a cumulative risk analysis where significant ecological risk factors identified in the multivariate models were hypothesised to have a cumulative effect on risky sexual behaviours. Risk indices were created for factors that were significant in multivariate analyses to represent presence or absence of risk. The generated indices were summed to represent a cumulative risk and a correlation between the cumulative risk and the outcomes of risky sexual behaviours were investigated. Simple linear regression analyses were conducted

to study the relationship between cumulative risk index and proportion of adolescents and young adults reporting the risky sexual behaviour outcome.

Results

A total of 4,752 respondents were interviewed, with 45.0% of the respondents being males, with a sample mean age of 18 (SD 2.5) years and a range of between 14 years and 22 years at baseline. The majority of respondents were unmarried with 98.9% reporting to have never been married during while only 28.3% reported working in the last year. At Wave 1 (2002), only 46% of respondents were sexually experienced compared to 94.3% at the end of Wave 5 (2009) survey showing a steady increase over the period. The mean age at sexual debut at Wave 1 was reported to be 16.2 (SD 1.8) years and increased to 19.4 (2.8) years at Wave 5 progressively increasing during the period. At Wave 1 71.5% used protection against disease or pregnancy, compared to 65.1% at Wave 5 showing a decline in condom use during the period. Number of reported sexual partners in the last 12 months was steady at a median of 1 for both Wave 1 and Wave 5.

Determinants for early age at sexual debut included years of education and age of first sex partner for both males and females at the individual level. While at the household level, only spending time with a mother was significant for females. Most community level factors were significant for both males and females including proportion unemployed, proportion individual Africans, and proportion below poverty line. Furthermore, additional determinants of risky sexual behaviours never reported before were identified, with more emphasis on the importance role of community level socio-economic status including mean years of education and employment status of household heads. Significant differences in sexual behaviours were observed at individual level characteristics of schooling status, planning to marry in the short term, living with a single or both parents, and community levels of education and

employment. The study found that ecological risk factors had a cumulative effect, meaning that as more risk factors became present, there was a corresponding increase in reports of risky sexual behaviours for the three outcomes investigated.

Conclusions

This study finds that the prevalence of risky sexual behaviour among young adults in urban Cape Town to be high, even though observed levels were not particularly different from levels observed in developed countries. However, in the context of a high HIV incidence of South Africa, these are important issues that need to be addressed. The important role that community socio-economic status plays was evident with a many of community factors returning significant for risky sexual behaviour studied. Findings from this study demonstrate that risk factors for sexual behaviour appear at all levels of the ecology that include characteristics at the individual, household and community levels. Further it was demonstrated that as factors becomes more prevalent in the context of the adolescents and young adults respondents, they reported increasingly engaging in risky sexual behaviours indicating that ecological risk factors had a cumulatively.

Interventions for risky sexual behaviour should be designed to include factors at all levels of the ecology as their effect tends to be cumulative. Socio-economic incentives that provide cash handouts to adolescents and young adults should be encouraged that intervenes to keep adolescents away from risky sexual activity. These programmes have worked in KwaZulu-Natal province, South Africa and have potential to work in urban Cape Town. Cash incentives have been effective in preventing pregnancy and marriage among adolescent girls in Kenya and India (Handa et al., 2015). Monthly stipends on school-attending condition would not only provide adolescents and young adults with schooling opportunities but also provide required economic incentives to stay away from transactional sex.

These findings are important for public health and population studies in South Africa because understanding risky sexual behaviours may inform on the design of effective programmes for mitigating the negative health outcomes associated. Since findings indicate that as ecological risk factors accumulate, risky sexual behaviours increase, this is important for policy and programme design. Programmes for reducing early sex initiation, unprotected sexual activity, and multiple partnerships among adolescents and young adults impact on fertility, mortality, and informs whether the country would achieve a demographic dividend. The flexibility of the ecological systems model was demonstrated in these analyses where it was adapted into the unique and specific settings of sub-Saharan Africa and in the case of Cape Town, an urban settings with differing socio-economic status communities. Therefore, the ecological systems framework was a powerful and a practical tool to study sexual behaviours in South Africa. Research on the effectiveness of programmes that compensate for the cumulative risk that is occasioned in communities with low socio-economic status is urgently required.

Keywords: Adolescents, young adults, risky sexual behaviours, HIV and AIDS, teenage pregnancy, cumulative risk, ecological systems, multiple partnerships, sex debut, and condom use.