Alcohol use, Khat Smoking and Risky Sexual Behavior among High School Boys in Nairobi, Kenya: Findings from a Web-Based Survey

Tilda Farhat, Carolyn Tucker Halpern, Ellen Mitchell

Context and Purpose
Conclusive evidence on the relationship of alcohol use by young people with risky sexual behavior is still lacking: while some studies report that it is positively associated with early initiation of sexual intercourse and multiple sexual partners, others state that its association with condom use is still equivocal (Santelli et al., 2001; Halpern-Felsher et al., 1996). On the other hand, research on the effect of khat consumption on the sexual behavior of young people is scarce, but the two studies identified that look at this relationship suggest a positive association (Taffa et al, 2002; Taffa et al, 2002).

Both alcohol and khat use were the most frequent substances reported by a sample of high school boys aged 12-22 years, in Nairobi, Kenya, enrolled in a web-based study. The boys also reported relatively high rates of sexual risk behaviors: only 15 % of sexually active boys said they always use condoms and about a third have ever had more than three partners.

The purpose of this study is to determine whether alcohol use and khat smoking are associated with risky sexual behavior in this population and if so, to examine potential explanations for these associations. More specifically, this paper will address the following questions:
1) What are the prevalences of alcohol use, khat consumption and risky sexual behavior in this sample of high school boys?
2) What are the associations between alcohol use, khat consumption and selected high-risk sexual behaviors, namely early age at first sex, nonuse of condoms and having multiple sexual partners?
3) What factors may explain the associations, if they exist, between alcohol use, khat consumption and condom nonuse?

Methods
Study Design:
The data were collected through TeenWeb, a research-practice collaborative project conducted by the Carolina Population Center at the University of North Carolina at Chapel Hill and Ipas. TeenWeb is a school-based, longitudinal, quasi-experimental study that tested the feasibility of using the Internet to (1) gather information on the reproductive health of urban adolescents in Nairobi, Kenya, and Rio de Janeiro, Brazil; and (2) educate them about various topics related to reproductive health. In Nairobi, TeenWeb's design called for two groups of schools: "Web" and "Control". Students in all schools first completed a self-administered paper module; students in "Web" schools then began a series of 5 web-based questionnaire modules that extended over eighteen months while those in "Control" schools completed one other paper module, whose timing coincided with that of the last module for "Web" schools. The web-based modules covered a wide range of topics including sexual behavior and substance use.

Sample
The analyses reported here are based on the data collected from 633 boys in forms 1, 2 and 3 in the three "Web" schools in Nairobi. "Control" school students were excluded since some of the measures were modules not available to them. Girls were also excluded from the analysis since very few reported any sexual activity (only 24 girls), thus rendering difficult any exploratory analyses. The boys' ages ranged from 12 years to 22 years with the majority being between 15 and 18 years.

Measures
Sexual Risk Behaviors: Four measures are used to capture the boys' involvement in sexual risk behavior:

Frequency of condom use is measured using the following 5-point scale question "Thinking of all the times you have had sexual intercourse, about what proportion of the time have you or your partner used a condom?" Scale items are as follows: 0 = None of the time, 1 = Some of the time, 2 = Half of the time, 3 = Most of the time, and 4 = All of the time. The measure will be recoded to indicate consistent condom use (item 4) vs. nonuse (items 0 through 3).

Condom use at most recent sexual intercourse is captured by the following question "If you have had sex more than one time, did you or your partner use a condom the most recent time you had sex?" The measure is coded to give higher scores to condom use vs. nonuse.

Number of sexual partners is measured by the following open-ended question "How many partners have you ever had sex (vaginal intercourse) with?"

Age at first sexual intercourse as reported by the respondents (in years) in answer to the question "How old were you the very first time you had vaginal intercourse?"

Substance Use:
Both *current alcohol and khat use* were captured by the question "During the past 30 days, how many times have you used the following drugs, if any?" A listing of several substances followed, including alcohol and khat. The measure was assessed using the following 5-point scale: 0 = 0 times, 1 = 1 or 2 times, 2 = 3 to 9 times, 3 = 10 or 19 times and 4 = 20 or more times. Answers will be dichotomized to reflect ever use (categories 1 through 4) vs. nonuse (category 0) since very few students reported heavy use of substances.

Sociodemographic variables:
Age was self-reported and later categorized as <= 15, 16, 17, and 18 or more years. The socio-economic status (SES) variable was computed as a count of 18 commodities available in the students' household (e.g. electricity, running water, refrigerator, and car). Students categorized in the "low" SES category were those who fell in the lowest 33rd percentile of the distribution, while those categorized in the "high" category were the ones who fell in the highest 33rd percentile of the distribution.

Analysis plan and Expected Findings
Analysis plan
Data will be analyzed using STATA 8.0. Prevalence of alcohol use, khat consumption and sexual risk behaviors will be computed in response to the first research question. Appropriate bivariate analyses (chi-squares or correlations, depending on the final number of categories of the measures) will then be conducted to show the associations between alcohol use, khat consumption and risky sexual behavior, in response to research question 2. Finally, logistic regression models predicting frequency of condom use (always vs. other) will be tested in response to the fourth research question.

Expected findings and discussion
We expect sexual risk behavior to be positively associated with both alcohol and khat use; however we cannot predict whether alcohol and khat use will co-vary simultaneously or separately with sexual risk behavior i.e. will students using alcohol and engaging in sexual risk behaviors also be consuming khat? Very few studies have investigated the use of khat by young people, its co-occurrence with other substances and their effect on sexual behavior. Our findings will only be exploratory but could be used to identify different profiles of adolescent risk behaviors and inform reproductive health programs in Nairobi (should these programs simultaneously incorporate messages about alcohol and khat use to be more effective?).

References

Santelli JS, Robin, L, Brener, N and Lowry R (2001). Timing of alcohol and other drug use and sexual risk behaviors among unmarried adolescents and young adults. Family Planning Perspectives, 33(5): 200-5

Halpern-Felsher BL, Millstein SG and Ellen JM (1996). Relationship of alcohol use and risky sexual behavior: a review and analysis of findings. Journal of Adolescent Health, 19:331-6

Taffa N, Klepp KI, Sundby J and Bjune G (2002). Psychosocial determinants of sexual activity and condom use intention among youth in Addis Ababa, Ethiopia. International Journal of STD and AIDS, 13(10): 714-9

Taffa N, Bjune G, Sundby J, Gaustad P and Alestrom A (2002). Prevalence of gonococcal and chlamydial infections and sexual risk behavior among youth in Addis Ababa, Ethiopia. Sexually Transmitted Diseases, 29 (12): 828-33