Research Article

A Comparison of the Sexual Risk Behaviors of Asian American and Pacific Islander College Students and Their Peers

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ABSTRACT

Background: *Asian American and Pacific Islanders (AAPIs) have been neglected in health research.* ***Purpose:*** *The purpose of this study is to (1) describe the sexual risk behaviors of a sample of AAPI community college students using questions from the National College Health Risk Behavior Survey, and (2) to compare the sexual risk behaviors of AAPI study participants (n=138) to their non-Asian peers (n=328).* ***Methods:*** *Comparisons were made between AAPI and non-Asian study participants using a z-test.* ***Results:*** *AAPI study participants were significantly more likely than their non-Asian peers to practice abstinence, limit their number of sexual partners, and use condoms. An unexpected finding was that AAPI participants were more likely to report a history of a sexually transmitted disease (STD).* ***Discussion:*** *Research suggests that mother-daughter sexual communication during adolescence is a crucial prerequisite to the practice of safer sex behaviors. A lack of sexual communication with parents during childhood may contribute to higher rates of STDs later in life.* ***Translation to Health Education Practice:*** *Health educators who work with parents, adolescents, and young adults should include effective sexual communication skills in health promotion programs designed to prevent STDs and unintended pregnancy.*

BACKGROUND

Asian American and Pacific Islanders (AAPIs) are one of the fastest growing segments of the American population. According to the 2000 U.S. census, 10.6 million Americans—4% of the total population—fall in this category. By the year 2050, AAPIs are projected to reach 41 million residents, or 11 percent of the population. The city with the largest AAPI population in the nation is New York.[1]

Yet, even as the number of AAPIs living in the United States has been steadily increasing, this minority group remains one of the most neglected in health research.[2-4] Where data exists for AAPIs, it often provides a misleading picture of a "model minority" characterized by higher educational achievement, a higher percentage employed in management or professional occupations, and a higher median annual income in comparison with other racial/ethnic populations.[1-4] Yet many recent AAPI immigrants live in poverty and struggle to overcome cultural and language barriers to upward mobility.[4]

The dearth of health research on the AAPI community suggests a "forgotten minority."[5] Chen's[3] recent analysis of the data tables in *Healthy People 2010*[6] found that AAPIs had the lowest percentage of baseline health survey data of any racial/ethnic group.[3] Dr. Chen noted that the AAPI health data columns in those tables were most often categorized as "data not collected," "data collected but not analyzed," or "data statistically unreliable due to small sample size or lack of a representative sample."[3] Similarly, in a recent review of the MEDLINE medical literature database, Ghosh found that less than one percent of the articles published in the past forty years focused on the AAPI population.[2] Thus, while the AAPI population has been called the "healthy minority"—with national statistics showing a greater life expectancy, lower rates of HIV and other sexually transmitted diseases (STDs), and a lower relative risk for many of the leading causes of death compared to other racial/ethnic groups—the available data may not be painting a complete picture of their health behaviors.[2-6]

It is therefore not surprising that very little research has been reported on the sexual

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risk behaviors of AAPI college students.[7-14] Understanding such behaviors is important to health educators because unprotected sexual intercourse places college students at risk for HIV infection, other STDs, and unintended pregnancy.[6] Despite this need, and despite the rising population of AAPIs nationwide, the National College Health Risk Behavior Survey (NCHRBS)[15]—one of the largest surveys of college students—reported no results for AAPIs. More specifically, the study (conducted by the Centers for Disease Control and Prevention) included 4,609 college students in 136 two- and four-year colleges—none of whom was described as AAPI.

Alarmingly, the little research that has been done on AAPI college students suggests that they are not comfortable discussing sexual risk behaviors and have inadequate knowledge of STD.[12-14] Research suggests that such discomfort in young adults may be linked to a lack of sexual communication with parents during childhood and a higher rate of STDs later in life.[16,17] This population's lack of knowledge about diseases such as HIV is also a concern. Yi[12] surveyed Vietnamese American college students and found that respondents had many misconceptions about HIV and were not comfortable discussing it or safer sex concerns with their sexual partners. In California, investigators questioning community college students found that Asian Americans displayed less knowledge and concern about HIV.[13] Similarly, So and colleagues[14] studied 248 predominantly Asian American college students who reported several high-risk sexual behaviors for HIV, including unprotected sex (37%), alcohol before sex (23.8%), and drug use before sex (6.0%). The 2005 Youth Risk Behavior Surveillance results were comparable, with 37.2% of non-Asian sexually active adolescents reporting unprotected sexual intercourse and 23.3% reporting they had drunk alcohol or used drugs before last intercourse.[18] Several researchers have reported that sexual risk behaviors in AAPI college students are associated with measures of acculturation.[13,19,20]

PURPOSE

The scant number of published reports on the AAPI community, along with AAPI college students' lack of knowledge about HIV, highlights the critical need for more research. The purpose of this investigation is to begin addressing this research gap by (1) describing the sexual risk behaviors of a sample of Asian American and Pacific Islander community college students using questions from the National College Health Risk Behavior Survey,[15] and (2) comparing the sexual risk behaviors of AAPI study participants to their non-Asian peers.

METHODS

A health risk behavior questionnaire was administered to a sample of college students attending a New York City community college with an enrollment of approximately 15,000 students annually. The majority of students at the college represent low-income, minority, and immigrant populations.

Instrumentation

Questions were drawn from the National College Health Risk Behavior Survey,[15] part of the Youth Risk Behavior Surveillance System (YRBSS) conducted by the Centers for Disease Control and Prevention (CDC). The YRBSS monitors health risk behaviors among adolescents and young adults.[21] Its reliability was measured by researchers at the CDC who conducted two test-retest reliability studies of the YRBSS questionnaire.[22,23] In the first study, approximately three-fourths of the questionnaire items were rated as having substantial reliability (kappa=61-100%).[22] In the second study, the mean kappa coefficient for questions assessing sexual behaviors was 62.7%, which investigators also characterized as substantial reliability.[23] Reliability was not measured on the shortened version of the YRBSS questionnaire used in this study. No study has been conducted to assess the validity of all the self-reported health risk behaviors included in the questionnaire. However, CDC researchers conducted an extensive literature review of the factors affecting the validity of self-reported health risk behaviors.[24] Brener and her co-investigators identified two studies that focused on the validation of self-reported sexual activity through a comparison with biomarkers, such as blood tests for sexually transmitted diseases, or medical record documentation of pregnancy or disease.[25,26] These validation methods were viewed as problematic by CDC investigators since they may be impractical, invasive, and costly.[24] Self-reports of sexual behaviors were not validated in this study.

The NCHRBS instrument was shortened in this study so that data collection was limited to items that would be analyzed. Questions on unintentional injuries, illicit drug use, and sources of health information were omitted. The survey instrument included twenty-four questions on five health risk behaviors: physical activity (four questions), dietary behaviors (eight questions), sexual activity (seven questions), cigarette smoking (three questions), and alcohol use (two questions), along with questions on demographic characteristics such as sex, age, race/ethnicity, employment status, student status, birthplace, length of residency in the United States, and language spoken at home. Results for physical activity, diet, cigarette smoking, and alcohol use have been reported in a recent publication.[27] Asian American and Pacific Islander ethnicity was defined as those who listed their own or their parents' country of birth as Southeast Asia. AAPI students' countries of birth included China, Taiwan, Korea, the Philippines, Vietnam, Cambodia, and Japan. The seven questions on sexual risk behaviors that comprise the current study are shown in Figure 1.[15] The written questionnaire, together with the informed consent form, requires about fifteen minutes to complete.

Data Collection

Data collection began following approval from the college's institutional review board. The main research assistant was a college student who had completed training in the ethical conduct of human subject research prior to data collection. Eleven health classes and four business classes, each with approximately 30 students, were selected for data collection, along with the campus-wide Asian Society. Health classes were selected

Figure 1. Survey Questions Regarding Sexual Behavior

The next questions ask about sexual relations you may have had. Remember, your responses to all of the questions will remain confidential.

1. *Have you ever had sexual intercourse?*
2. *During your life, with how many people have you had sexual intercourse?*
3. *During the past three months, with how many people have you had sexual intercourse?*

The next questions ask about the last time you had sexual intercourse:

4. *Did you drink alcohol or use drugs before you had intercourse?*
5. *Did you or your partner use a condom?*
6. *What one method did you or your partner use to prevent pregnancy?*
7. *Have you ever been told by a doctor or nurse that you had a sexually transmitted disease?*

as most students at the college are required to complete an introductory wellness class in order to graduate. Business classes were selected because many AAPI students at the college are business majors. Specific sections of health or business classes were chosen because the instructors were cooperative and willing to devote 15 minutes of class time to student participation in the study. Finally, the survey was administered at a meeting of the Asian Society, a campus-wide organization for non-Asian and AAPI students interested in Asian culture and cuisine. In this way, an effort was made to increase the likelihood that AAPI students would be included in the sample. After one semester of data collection, 512 questionnaires were collected; 46 were incomplete and therefore were removed from the data analysis, resulting in a sample size of 466 study participants.

An effort was made to prevent individual students from completing the questionnaire multiple times. The research assistant was trained to be aware of this possibility, e.g., if an individual was present at both the meeting of the Asian Society and one of the surveyed health or business classes. In order to prevent doubled surveys, the research assistant was instructed to advise potential study participants to refrain from completing the survey if they had already done so in another campus setting. A gentle admonition to complete the questionnaire one time only was part of the research assistant's standard introductory script prior to survey administration.

Research[19,20,28] suggests that AAPIs may be hesitant to talk about sexual activity, and therefore several steps were taken to enhance students' comfort with the data collection process. First, a self-administered questionnaire was used instead of an interviewer-administered questionnaire. This format was chosen because sexual behavior is viewed by many in the AAPI community as private domain, and study participants might be reluctant to discuss their sexual practices out of fear of embarrassment or disapproval.[19,20,28] Second, the questionnaire included items on other health behaviors, such as diet and physical activity, and this more general focus on health was thought to be more comfortable for respondents. Finally, an AAPI research assistant was hired to review the informed consent form with prospective study participants, describe the purpose of the study, and explain that responses to the questionnaire were voluntary, anonymous, and confidential. All of these strategies were designed to respect students' privacy and to help put them at ease.

Data Analysis

Data was analyzed using the Statistical Package for the Social Sciences (SPSS), version 10.0.[29] Comparisons were made between the two groups, AAPI and non-Asian study participants, using a z-test.[30] The z-test was selected for several reasons. First, it is a more appropriate statistic to employ than t-scores because it compares categories (AAPI and non-Asian) based on dichotomous rather than categorical variables. Second, it is a more appropriate method than chi-square because it measures the magnitude as well as the direction of the difference.[31]

RESULTS

The ethnic/racial profile of study participants was different from the college as a whole, since an effort was made to recruit AAPI respondents in particular. Thirty percent of the study participants (138 of 466) were AAPI; 27% (125) were Black/African American; 12% (56) were Hispanic/Latino; and 31% (147) were White. The enrollment data profile of all students at the college shows that 12% are AAPI, 32% are Black/African American, 14% are Hispanic/Latino, and 41% are white.[32]

Table 1 describes study participants' demographic characteristics. Most of the AAPI study participants were female (57%), in the 20-to-24-year-old age group (62%), single (85%), in the United States fewer than eight years (47%), and full-time students (92%) with a part-time job (58%). Only about one in four (28%) spoke English at home. The demographic characteristics of the 328 non-Asian students were similar to those of all students at the college.[32] Fifty-four percent (54%) of the non-Asian respondents were female, compared to 58% of all students at the college. Almost half (46%) of them were in the 20-to-24-year-old age group, compared to 47% of all students at the college. Finally, the non-Asian study participants were more likely than the AAPI respondents to have been born in the United States (58%) and speak English at home (82%).

Table 2 summarizes all participants' responses to the seven questions regarding sexual risk behaviors displayed in Figure 1 and facilitates comparisons between AAPI and non-Asian study participants. Overall, the AAPIs were significantly more likely than the non-Asians to practice abstinence, limit the number of sexual partners, and use condoms. Significantly fewer (67%) AAPIs

reported that they had had sexual intercourse in their lifetime, compared to 83% of non-Asians (z score=-3.79, $p<.01$). In addition, AAPIs (26%) were significantly less likely than non-Asians (38%) to report six or more sexual partners in their lifetime (z score=-2.13, $p<.05$), and significantly more likely (37%) to report only one sexual partner in their lifetime, compared to their non-Asian counterparts (21%) (z score=3.13, $p<.01$). When asked about recent sexual activity, significantly more AAPIs (77%) reported only one sexual partner in the past three months, compared to their non-Asian peers (63%) (z score=2.34, $p<.05$). Condom use was also more common among AAPIs; 66% of them reported that they, or their partner, had used a condom the last time they had sexual intercourse, compared to 55% of non-Asians (z score=1.96, $p<.05$). Finally, an unexpected result was that significantly more AAPIs (17%) than non-Asian study participants (8%) reported that they had been told by a doctor or nurse that they had a sexually transmitted disease (z score=2.51, $p<.05$).

Table 1. Demographic Characteristics of AAPI and Non-Asian Study Participants

Demographic Characteristic	AAPI (n=138) Percentage	Non-Asian (n=328) Percentage
Sex		
Female	57	54
Male	43	46
Age Group		
Under 20 years old	17	29
20 to 24	62	46
25 to 29	12	12
30 or older	9	13
Marital Status		
Single	85	79
Married	15	21
Length of Residency in the U.S.		
Born in U.S.	16	58
8 years or less	47	21
More than 8 years	37	22
Language Spoken at Home		
English	28	82
Student Status		
Part-time	9	12
Full-time	92	88
Employment Status		
Not employed	42	35
1 to 16 hours per week	19	13
17 to 29 hours per week	30	22
30 or more hours per week	9	31

Note: Total percentages may not add up to 100 due to rounding.

DISCUSSION

Results from this preliminary study show that AAPI study participants were significantly more likely than their non-Asian peers to practice safer sex behaviors, such as abstaining from intercourse, limiting the number of sexual partners, and using condoms. Yet, surprisingly, AAPIs were also significantly more likely than non-Asians to report a history of sexually transmitted disease.

The scientific literature provides several possible explanations for these results. Compared to other racial and ethnic groups, AAPI adolescents and young adults tend to show more sexually conservative attitudes and behavior and to initiate sexual intercourse at a later age.[19,20,28] Several researchers have concluded that Asian American and Pacific Islanders share many cultural characteristics, such as the importance of the family, an emphasis on propriety and social codes, sexual activity only within the context of marriage, and sexual restraint and modesty.[19,20,28] These interwoven factors may have contributed to the lower percentage of AAPI study participants who reported they were sexually active or had multiple sexual partners.

Research suggests that young adults who report higher rates of sexually transmitted diseases may have had little or no sexual communication from their parents during adolescence.[16,17,33] The importance of parent-child sexual communication may help to explain why more AAPI than non-Asian participants in this study reported a history of STD. Several investigators have posited that a lack of sexual communication between parents and their adolescent children may lead to high-risk sexual behaviors.[16,17,33] In an expansion of the theory of planned behavior [34] to parent-child sexual communication, Hutchinson and Montgomery postulated that parenting processes influence adolescents' beliefs toward engaging in sexual risk behaviors, and these beliefs, in turn, influence intention and engagement in sexual risk or safer sex behaviors.[16] Crosby and colleagues found that infrequent mother-daughter sexual communication was associated with adolescent females' low motivation to use condoms, low perceived ability to negotiate condom use, and fear of this negotiation.[33] Research suggests that a lack of communication between mothers

Table 2. Percentage of Study Participants Engaged in Sexual Behaviors by Race/Ethnicity and Sex

	AAPI (n=138)			Non-Asian (n=328)			
Sexual Behaviors	Female	Male	All	Female	Male	All	z-test
Sexually Active	50 (65%)	42 (69%)	92 (67%)	144 (83%)	127 (82%)	271 (83%)	-3.79*
Sexual Partners During Lifetime							
Never had sex	27 (35%)	19 (31%)	46 (33%)	29 (17%)	28 (18%)	57 (17%)	3.79*
One partner	20 (40%)	14 (33%)	34 (37%)	43 (30%)	13 (10%)	56 (21%)	3.13*
Two partners	9 (18%)	7 (17%)	16 (17%)	13 (9%)	21 (17%)	34 (13%)	1.17
Three to five partners	10 (20%)	8 (19%)	18 (20%)	50 (35%)	27 (21%)	77 (28%)	-1.67
Six or more partners	11 (22%)	13 (31%)	24 (26%)	38 (26%)	66 (52%)	104 (38%)	-2.13†
Total	77 (56%)	61 (44%)	138	173 (53%)	155 (47%)	328	
Sexual Partners During Past Three Months							
Never had sex	27 (35%)	19 (31%)	46 (33%)	29 (17%)	28 (18%)	57 (17%)	3.79*
No sexual partners	3 (6%)	5 (12%)	8 (9%)	14 (10%)	25 (20%)	39(14%)	-0.15
One partner	44 (88%)	27 (64%)	71 (77%)	112 (77%)	58 (46%)	170 (63%)	2.34†
Two partners	3 (6%)	5 (12%)	8 (9%)	14 (10%)	26 (20%)	40 (15%)	-1.48
Three or more partners	0 (0%)	5 (12%)	5 (5%)	4 (3%)	18 (14%)	22 (8%)	-0.85
Total	77 (56%)	61 (44%)	138	173 (53%)	155 (47%)	328	
Alcohol/Drug Use							
Before last sexual intercourse	4 (8%)	9 (21%)	13 (14%)	20 (14%)	27 (21%)	47 (17%)	-0.72
Condom Use							
During last sexual intercourse	33 (66%)	28 (67%)	61 (66%)	60 (42%)	88 (69%)	148 (55%)	1.96†
Contraceptive Method Used During Last Sexual Intercourse							
No intercourse	27 (35%)	19 (31%)	46 (33%)	29 (17%)	28 (18%)	57 (17%)	3.79*
No method	9 (18%)	7 (17%)	16 (17%)	52 (36%)	22 (17%)	74 (27%)	-1.90
Pregnancy prevention	8 (16%)	7 (17%)	15 (16%)	32 (22%)	17 (13%)	49 (18%)	-0.39
STD prevention	30 (60%)	25 (60%)	55 (60%)	53 (37%)	78 (61%)	131 (48%)	1.90
Multiple methods	3 (6%)	3 (7%)	6 (7%)	7 (5%)	10 (8%)	17 (6%)	0.08
Total	77 (56%)	61 (44%)	138	173 (53%)	155 (47%)	328	
Ever Had a Sexually Transmitted Disease	12 (24%)	4 (10%)	16 (17%)	15 (10%)	7 (6%)	22 (8%)	2.51†

Note: Total percent may not add up to 100 due to rounding.
*$p<.01$
†$p<.05$

and their adolescent daughters about sexual risk behaviors may result in unprotected sexual intercourse and sexually transmitted disease later in life.[16,17] AAPI study participants may have had little or no parent-child sexual communication during adolescence, and the absence of sexual communication may have contributed to a low motivation to use condoms, as well as a high percentage with STD histories. The percentage of AAPIs who reported condom use at last sexual intercourse may have resulted from the fact that they were more likely to have had a personal STD history than non-Asian participants and, as a result, had learned to prevent a recurrence of disease through condom use. It is also possible that AAPI college students may be more likely than non-Asian students to visit a health care provider when they think they might have an infection, thereby resulting in more diagnoses of STDs among them. Additionally, several investigators have linked measures of acculturation, such as languages spoken at home or length of residency in the U.S., to higher rates of sexual risk behaviors.[14,19,20,28] These reports are consistent with the characteristics of the subjects in the current study—only a quarter (28%) of AAPI participants reported speaking English at home, and about half (47%) reported living in the U.S. less than eight years (see Table 1). Finally, despite the challenges the AAPI population in this study may face (e.g., a lack of STD/HIV knowledge and a lack of parent-child sexual communication), some of their cultural norms may help protect them from disease or unintended pregnancy, given that significantly fewer of them engaged in sexual intercourse or had multiple sexual partners, and that they were generally more likely to use condoms.

Study Limitations

Although the results of this study provide valuable information about the sexual risk behaviors of a cohort of college students, certain limitations must be acknowledged. First, the results are based on participant self-report, which may be subject to errors in recall or pressure to provide socially desirable responses. Second, study participants were not randomly selected; therefore, the results cannot be generalized beyond the study subjects. Randomization would have been desirable, but due to limited resources, it was not feasible. Instead, this preliminary study was designed to add to the scant body of knowledge about the sexual risk behaviors of AAPI college students.

TRANSLATION TO HEALTH EDUCATION PRACTICE

AAPI adolescents and young adults may benefit from health promotion programs that address sexual risk behaviors. Research suggests that parent-child sexual communication,[16] particularly mother-daughter sexual communication during adolescence,[17] is a crucial prerequisite to the practice of safer sex behaviors. Health educators who deliver health promotion programs designed to prevent unintended pregnancy and STDs need to consider a dual focus: (1) increasing participants' knowledge and skill regarding how to choose and use birth control methods, and (2) enhancing participants' sexual communication skills so that those who are sexually active feel comfortable and self-confident discussing and negotiating condom use with their sexual partner. Sexual health promotion programs will be especially important for the AAPI population because many AAPI adolescents and young adults have had little or no education about sexual risk behaviors from their parents. Health educators who work with parents also need to plan health promotion programs that emphasize the importance of parent-child sexual communication in disease prevention.

By the year 2050, one in two Americans will be Hispanic/Latino, Black/African-American, American Indian, or AAPI.[1] The college campus of the future will reflect the nation's diversity. This study suggests that AAPI college students may be more likely than their non-Asian peers to practice abstinence, limit sexual partners, and use condoms. Yet, many AAPI students would benefit from health promotion programs designed to enhance sexual communication skills and build self-confidence in negotiating safer sex behaviors in order to prevent STDs and unintended pregnancy.

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