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Exploring HIV-testing intentions in young Asian/Pacific Islander (API) women as it relates to acculturation, theory of gender and power (TGP), and the AIDS risk reduction model (ARRM)

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Abstract

While HIV rates are low for Asian/Pacific Islanders (APIs), they have been increasing, especially for API women in the USA. We conducted a cross-sectional study with 299 young API women (18–24 years old) in the Inland Empire region of Southern California to better understand their intention for HIV testing and their perceptions about HIV/AIDS. Data analyses included descriptive statistics, bivariate exploration for model building and multivariate analyses to determine variables associated with HIV-testing intentions. Results suggest that more lifetime sexual partners, greater perceived gender susceptibility, higher HIV/AIDS knowledge, sexually active, more positive attitudes about HIV testing and higher self-perceptions/experiences related to risk contribute to stronger intentions for HIV testing in young API women. Findings from this study will contribute to the limited literature on HIV/AIDS in API women and provide information that can be used for developing and implementing culturally appropriate programs that encourage HIV prevention and testing in this population.

Keywords

HIV/AIDS; sexual risk; HIV testing; API; women

Introduction

HIV/AIDS continues to affect women significantly in the USA. Although US Asian/Pacific Islanders (APIs) have less than 1% rates of HIV/AIDS, their incidence rates are increasing faster than other racial groups (Chin, Leung, Sheth, & Rodriguez, 2007). In 2010, 812 Asians (134 females) were diagnosed with HIV infection, a 5% increase from 744 in 2007 (Center for Disease Control and Prevention, 2012). Moreover, API women are 20% more likely to be diagnosed with HIV than White women (Office of Minority Health, 2012). Despite medical advances in treatment, HIV/AIDS stigma and discrimination continues to instill fear in individuals who consider testing (Paxton et al., 2005). While the literature on

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API women and HIV-testing intentions is scant, Chin and Kroesen (1999) found that the decision to test and disclose is especially difficult for API women because of cultural/gender values that emphasize sexual modesty.

Acculturation was found to have positive and negative effects on behaviors that place individuals at higher risk for HIV/AIDS or avoidance of HIV testing (Despues & Friedman, 2007; Hahm, Lahiff, & Barreto, 2006). Wingood and DiClemente's (2000) theory of gender and power (TGP) suggests that women's values and options have been dictated by their respective societies; whereby, psychological, institutional, and societal pressures affect their knowledge, attitudes, and skills to seek protection. As power inequity between genders increased in favor of men, women were unable to implement preventive behaviors increasing their risk for HIV/AIDS (Woolf & Maisto, 2008).

Catania, Kegeles, and Coates' (1990) AIDS risk reduction model (ARRM) advocate the importance of risk appraisal noting that individuals engaged in risky behaviors often do not acknowledge their risk for contracting and/or transmitting HIV/AIDS. This study employed a conceptual framework that included variables relating to acculturation, TGP, and ARRM to explore HIV-testing intentions in young API women.

Methods

A descriptive, cross-sectional study was conducted to investigate factors that influence HIV-testing intention among 18–24-year-old self-identified API female college students ($N = 299$) in the Inland Empire region of Southern California. Institutional Review Board approval from the participating universities was obtained. A survey incorporated information from a prior contextual qualitative phase and scales from the theories that contributed to the study's theoretical framework. The dependent variable, HIV-testing intentions was assessed using a 5-point Likert scale. Demographic information and sexual-risk behaviors were also assessed.

Validated TGP questions using a 5-point Likert scale (Wingood & DiClemente, 1998) assessed partner communication and condom-use attitudes (Cronbach's alpha: 0.78 and 0.99, respectively).

ARRM constructs were measured using a “true/false/ don't know” HIV/AIDS knowledge scale response options (DiClemente & Temoshok, 1986; Li et al., 2004) and perceived-risk for HIV/AIDS questions (Cronbach's alpha: 0.76 and 0.84, respectively) (Lux & Petosa, 1994).

Acculturation was assessed using the Asian American Multidimensional Acculturation Scale (AAMAS), a 15-item tool, measuring ways participants identified with their Asian culture (language, food, and cultural traditions) using three subscales each measured by 6-point Likert scales: (a) AAMAS-Culture of Origin, (b) AAMAS-Asian American, and (c) AAMAS-European American (Cronbach's alpha: 0.89, 0.84, and 0.84, respectively) (Gim Chung, Kim, & Abreu, 2004).

Data were analyzed using Statistical Analysis System (SAS). Mean, frequencies, and percentages described the demographic and sexual behaviors of the participants. Factor analysis determined HIV attitude factors, and reliability for each factor was explored using Cronbach's alpha, with scores above 0.60 considered acceptable. HIV-related attitudes (Cronbach's alpha: 0.65 and 0.80, respectively) and barriers to HIV-testing questions (Cronbach's alpha = 0.87) were assessed using a 5-point Likert scale devised based on information obtained from a prior qualitative work. An overall HIV/AIDS knowledge score was determined based on the number of correct responses to 13 questions.

As a model building strategy, the bivariable relationships were evaluated between variables/factors associated with HIV-testing intention using simple linear regressions, analysis of variances (ANOVAs), and independent *t*-tests. Relationships with *p*-values less than 0.10 were included in a multivariable linear regression to investigate HIV-testing intention.

Results

Participants' mean age was 20 with only 40% reporting having been sexually active. The demographic data illustrates the sample heterogeneity (Table 1).

Sexually active participants indicated relatively low numbers of lifetime sexual partners (mean = 2.4). Reported condom use during last intercourse was 60% and 86% had never been tested for HIV. Participants were highly acculturated to the US culture.

All candidate variables were explored with our dependent variable (HIV-testing intention). Only AAMAS-EA was bivariably associated ($p < 0.10$) and included in the final regression model (Table 2). Table 3 summarizes variables associated with the outcome at (0.10). Of the demographic variables and acculturation, only primary language was spoken and those with greater AAMAS-European American leaning acculturation rose to the level of inclusion ($p < 0.10$). Also, sexually active participants ($p = <0.001$), respondents in a casual dating relationship, those reporting more personal control in their relationship, experiencing violence in their relationship, and those with partners who had more control about condom use were more likely to have stronger testing intentions.

Other bivariable results showed participants who primarily spoke English and who had three or more partners, used condoms at their last sexual encounter, used condoms inconsistently, or never, felt testing had its advantages, were more concerned about being infected, and had been tested for sexually transmitted infections (STIs) were more likely to have testing intentions. Overall, participants had moderate levels of susceptibility to HIV (mean = 3.07). However, those who felt they were not at risk for HIV/AIDS had weaker testing intentions as did participants who lacked knowledge about HIV testing.

Multiple regression analysis (Table 4) explained 41% of the variance in HIV-testing intentions and only six variables remained significant. Those who had three or more sexual partners, greater HIV-testing knowledge, were sexually active, higher self-perceptions of risk, felt that both gender were susceptible to HIV, and believed that testing had advantages had higher testing intentions ($p < 0.05$).

Discussion

Likely because the study took place in a university setting, the majority of our participants were highly acculturated, with high knowledge scores, and access to information about HIV/AIDS (Sheeran, Abraham, & Orbell, 1999). Nevertheless, misconceptions/lower HIV/AIDS knowledge was associated with lower HIV-testing intentions which aligns with other studies, although none included API women (Jemmott, Maula, & Bush, 1999).

Most reported that disclosing and/or considering HIV testing as difficult. For our participants, it was further magnified by cultural stigma and discrimination associated with sexuality and HIV. Despite high levels of acculturation and knowledge about testing most of our participants exhibited sexual conservatism and did not defy their culture by having sex (only 40% had sex by age 20), and once they had sex, few had multiple sex partners (36%). This compares to 80% of sexually active US women in the same age group (The Kinsey Institute, 2010).

Despite these low rates of sexual activity our sexually active participants had a testing rate of 33%, compared to overall US testing rates of 22–30% (Spielberg, Kurth, Gorbach, & Goldbaum, 2001) and an average HIV-testing rate of 32% for young adults (ages 18–24) (Anderson, Chandra, & Mosher, 2005). This surprisingly high testing rate suggests that these participants who “defied” culture and engaged in sex worried about their risk despite low risk factors such as low number of lifetime partners and high condom use (46% vs. 39% in similar age groups in the USA) (The Kinsey Institute, 2010) and monitored their risk through testing.

Previous research suggested that Asian women exhibited modesty and submissiveness in their relationships (Gómez & Marín, 1996) regardless of acculturation; however, nearly half of the sexually active participants reported confidence/control in their relationship (negotiating safer-sex practices). Our participants seemed to have adopted relationship roles shaped by American values emphasizing personal power and assertiveness (Hahm et al., 2006). This was, however, contrasted by universal high fear about HIV testing. While condom-use rates were slightly higher than in other samples of young adults (Roberts & Kennedy, 2006), 54% used condoms only half of the time and/or never. In addition, they shared attitudes with those who were not sexually active, whereby, HIV testing and/or condom use between sexual partners was deemed offensive making it difficult to protect themselves from HIV/AIDS.

In conclusion, despite high levels of acculturation, our participants had conservative sexual behavior patterns and attitudes. Among those sexually active, we found relatively high rates of condom use and HIV testing above the national average for comparable ages. However, we noted sexually active individuals that had low risk perception, lacked knowledge and feared HIV testing – a set of attitudes shared with the majority of respondents who were not yet sexually active. Clearly, any outreach to young API women, educated and acculturated or not, needs to be within the context of the strong cultural taboos around sexual issues, carefully correcting knowledge about HIV/AIDS and encouraging self-protection strategies at a time of increasing HIV rates.

Strengths and limitations

Self-report and the convenience sample and cross-sectional nature of the study limits its generalizability. Our study will not apply to individuals less educated and recently immigrated. As cultural expectations for sexual conservatism is still powerful for the participants, social desirability may have led to underreporting. However, our mixed-method approach to the survey development and limited availability of information on young API women makes this still a study that allows us to better understand HIV/AIDS issues in a population with rising rates.

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Table 1Demographics and sexual behavior of sample population ($N = 299$).

Demographics		N	%	Sexual behaviors		N	%
Age ($N = 295$), mean = 20, SD = 1.77				Sexually active (ever; $N = 297$)			
18–19		159	54	Yes		119	40
20–24		136	46	No		178	60
Relationship status ($N = 299$)				Number of sex partners ($N = 119$, mean = 2.4)			
Never dated		50	17	1–2 partners		76	64
Not currently dating		73	24	3+ partners		43	36
Serious/committed		80	27				
Casual/dating		96	32	Condom use during last intercourse ($N = 119$)			
				Yes		71	60
Ethnicity ($N = 299$)				No		48	40
Korean and mixed ethnicities		54	18.1				
Chinese		90	30.1	Consistency of condom use ($N = 114$)			
Filipino		64	21.4	Every time (100%)		52	46
Southeast Asians		40	13.4	Half the time		29	25
East Asians and Pacific Islanders		24	8	Never (we never use condoms)		33	29
South Asians		27	9				
				Tested for STI ($N = 119$)			
Birthplace ($N = 296$)				No, never been tested		80	67
USA		205	69	Tested		39	33
Other countries ^b		91	31				
				Ever tested for HIV (all; $N = 298$)			
Years in the USA ($N = 299$)				Yes		42	14
0–5 years		35	12	No		256	86
6+ years		264	88				
				Ever tested for HIV (sexually active; $N = 119$)			
Year in school ($N = 297$)				Yes		33	28
1st–2nd years		205	69	No		86	72
3rd–5th years/other		92	31				

Demographics		N	%	Sexual behaviors	N	%
Primary language spoken (N=296)		Method of contraception (N = 119) ^a				
English	254	86		Condom	69	58
Other language ^c	42	14		Oral contraceptive	25	21
				Withdrawal	15	13
				Patch	11	9
Household income (N=292)				Spermicide	21	18
Low income	127	43		None	9	7
High income	165	57		Other ^d	5	4
Religion (N = 292)						
Catholic	67	23				
Seventh-day Adventist	61	21				
Christian	68	23				
Not religious	36	12				
Non-Christian	60	21				

Notes:

- ^aTotal percentage exceeds 100% because respondents were allowed to check all that apply.
- ^b“Other countries” – countries such as (1) Korea, (2) Philippines, (3) China, (4) Taiwan, etc.
- ^c“Other language” – languages such as (1) Korean, (2) Chinese, (3) Hindi, etc.
- ^d“Other” – other method of contraception include: (1) depo provera, (2) plan B, and (3) nuva ring.

Table 2Asian acculturation domains and intention for HIV testing ($N = 299$).

Variable	Overall mean score	β	p value
Culture of origin (AAMAS-CO)			
Language	–	–	–
Food consumption	4.69	–0.077	0.345
Cultural knowledge	–	–	–
Cultural identity	–	–	–
Asian Americans (AAMAS-AA)			
Language	–	–	–
Food consumption	3.30	0.110	0.185
Cultural knowledge	–	–	–
Cultural identity	–	–	–
European Americans (AAMAS-EA)			
Language	–	–	–
Food consumption	4.80	0.187	0.062
Cultural knowledge	–	–	–
Cultural identity	–	–	–

Note: Bold value represents those variables associated with the outcome (HIV-testing intention). $p < 0.10$.

Table 3

Bivariable regression analysis of HIV-testing intention.

Dependent variable: HIV-testing intention				
Variables	β	<i>p</i> value	95% CI for Exp(B)	
Primary language	0.376	0.052	−0.003	0.755
Number of sex partners	0.527	<0.001	0.355	0.699
Condom use during last intercourse	0.478	<0.001	0.330	0.626
Consistency of condom use	0.408	<0.001	0.288	0.528
History of STI	0.381	0.023	0.053	0.710
HIV/AIDS knowledge	−0.299	0.015	−0.539	−0.058
Personal concern about being infected	0.642	<0.001	0.388	0.897
Dating relationship (casual/not)	0.283	<0.001	0.165	0.402
Current/recent sexual relationship	0.415	<0.001	0.227	0.603
Sexually active	0.697	<0.001	0.436	0.957
Perceived sexual risk				
Self-perceptions and experiences related to risk	−0.417	<0.001	−0.531	−0.303
Personal risk perception	0.183	0.001	0.076	0.291
Beliefs and attitudes about HIV and AIDS				
Gender most susceptible to HIV/AIDS	0.124	0.058	−0.004	0.252
Gender and partner-related roles				
Control on sexual issues	0.211	<0.001	0.130	0.292
Partner abuse in relationship	0.377	<0.001	0.198	0.556
Control by partner about condom use	0.620	<0.001	0.461	0.780
Attitudes about HIV testing				
Lack of knowledge and attitude about HIV testing	−0.142	0.037	−0.275	−0.009
Comfort and knowledge about HIV testing	0.321	<0.001	0.156	0.485
Advantages to HIV testing	0.693	<0.00	0.527	0.860
Perceptions about HIV/AIDS	−0.405	<0.00	−0.533	−0.278
Fear about HIV testing	0.171	0.055	−0.003	0.346

Note: Bold values represent those variables associated with the outcome (HIV-testing intention). $p < 0.10$.

Table 4

Multiple regression analysis of HIV-testing intention.

Dependent variable: HIV-testing intention				
Variables $R^2 = 0.41$	β	p value	95% CI for Exp(B)	
			Lower	Upper
Primary language	-0.090	0.648	-0.476	0.297
AAMAS-European Americans	0.029	0.770	-0.168	0.227
Number of sex partners	0.589	0.002	0.213	0.965
Condom use during last intercourse	-0.032	0.840	-0.343	0.279
Consistency of condom use	0.061	0.534	-0.132	0.255
History of STI	-0.164	0.337	-0.500	0.172
HIV/AIDS knowledge	-0.287	0.008	-0.498	-0.075
Personal concern about being infected	0.131	0.301	-0.118	0.380
Dating relationship (casual/not)	0.069	0.280	-0.056	0.194
Current/recent sexual relationship	-0.009	0.947	-0.270	0.252
Sexually active	-0.679	0.044	-1.341	-0.017
Perceived sexual risk				
Self-perceptions and experiences related to risk	-0.173	0.009	-0.304	-0.042
Personal risk perception	-0.038	0.465	-0.140	0.064
Beliefs and attitudes about HIV and AIDS				
Gender most susceptible to HIV/AIDS	0.166	0.004	0.053	0.280
Gender and partner-related roles				
Control on sexual issues	0.037	0.415	-0.052	0.126
Partner abuse in relationship	0.015	0.876	-0.172	0.201
Control by partner about condom use	0.279	0.202	-0.150	0.707
Attitudes about HIV testing				
Lack of knowledge and attitude about HIV testing	0.048	0.538	-0.106	0.203
Comfort and knowledge about HIV testing	0.110	0.277	-0.088	0.307
Advantages to HIV testing	0.413	<0.001	0.232	0.594
Perceptions about HIV/AIDS	-0.142	0.061	-0.290	0.007
Fear about HIV testing	0.105	0.217	-0.062	0.271

Note: Bold values represent those variables associated with the outcome (HIV-testing intention), $p < 0.10$.