Sexual and Cervical Cancer Screening and Prevention Behaviors among Middle Eastern College Women in the United States

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Disclosures

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Sexual and Cervical Cancer Screening and Prevention Behaviors

- Several factors increase risk for contracting Human Papilloma Virus (HPV) infection among college-age women, which increases their risk for cervical cancer later in life
- The prevalence of sexually transmitted diseases suggests an increased risk among young adults, particularly sexually active college students
- Cervical cancer is preventable and treatable



Sexual and Cervical Cancer Screening and Prevention Behaviors

Focusing on Middle Eastern College Women

- Cervical cancer screening is influenced by
 - socioeconomic factors, immigrant status, religious identity
- Traditional Middle Eastern beliefs proclaim that women remain virgins prior to marriage, therefore, minimizing their risk for cervical cancer, thus believing that cervical cancer screening in single Middle Eastern (ME) women is not indicated
- Middle Eastern studies that have examined cervical cancer screening in ME women report poor participation



Population of Interest



Arabs (individuals from Arabic speaking countries) are from 2 regions:

- **Middle East** Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, United Emirates, and Yemen
- North Africa Algeria, Libya, Morocco, and Tunisia
- Middle Easterners from non-Arabic Countries are from: Iran, Israel, and Turkey

Factors that Influence Sexual and Cervical Cancer Screening & Prevention Behaviors

- Demographic/education/SES factors
- Acculturation (heritage/mainstream)
- Social support
- Psychosocial stress
- Experiences of discrimination
- Religiosity
- Patriarchal beliefs (attitudes towards women and sexuality)
- Access to care factors



Integrative Conceptual Framework

Community Domain

HBM-Barriers/Cues to Action Ethnic/Religious Organizations Community Organizations Assimilation-Host Culture

Organizational Domain

HBM-Barriers/Cues to Action

Access University Services Access Health Services/HCP Access Health Information

Interpersonal Domain

HBM-Barriers/Cues to Action

Social Support Patriarchal Views Perceived Discrimination

Intrapersonal Domain

HBM-Barriers/Cues to Action

Demographics i.e. immigration status
Psychosocial Stress
Religiosity
Integration-Preserve Heritage
Culture



Study Purpose & Research Questions

<u>Study purpose</u>: To examine determinants of <u>sexual</u>, <u>cervical</u> cancer screening, and prevention behaviors among ME college women in the US.

Research Questions:

- 1. Are sexual, cervical cancer screening, and prevention behaviors associated with *individual factors* (e.g., age, marital status, religious affiliation, etc.)?
- 2. Are associated with sexual, cervical cancer screening, and prevention behaviors associated with **sociocultural factors** (e.g., religiosity, and patriarchal beliefs)?
- 3. Are sexual, cervical cancer screening, and prevention behaviors associated with *access to care factors* (e.g., having a *healthcare provider*, *health insurance*)



Methods

- Cross-sectional design, using an anonymous, web-based survey on REDCap
- ME student collaborators focus group meeting to:
 - Refine survey for clarity and cultural relevance
 - Identify effective recruitment strategies
- Study Sample:
 - 406 participants
 - Power analysis done to ensure adequate sample size
 - Eligibility: 18 years of age or older, enrolled in college or graduated within 6 months, Middle Eastern/Arabic background, 1st or 2nd generation immigrant / student visa



Data Analysis

- Descriptive univariate analysis
- Bivariate analysis (chi-square & t-test)
- Multivariate logistic regression analysis
 - Hierarchical in 3 blocks
 - Individual
 - Sociocultural
 - Access to care



Characteristics of Study Sample (N=406)	%
Age 21 years or less	72%
Born in United States	80%
Full-time college student	85%
Undergraduate student	80%
Working (part time/full time)	53%
Health insurance private/university	83%
Single status	70%
Muslim Religion	65%
Daily interactions with both ME and non-ME students	47%
Belonging to student organizations	36%
Belonging to community/religious organizations	67%
Ever had Sexual Intercourse	61%
Condom Use, last time	57%
Contraception Use, last time	78 %
Pap test-ever had	24%
HPV test-ever had	16%
Received HPV Vaccine (at least one dose)	37%

Sexual Behaviors

Significant Predictors		Odds Ratios		
		Ever had sexual intercourse	Condom use in last time	Contraception use in last time
Block 1: Individual Predictors	Variability predicted (R2)	29-39%	14-19%	14-22%
	Age, older than 21 yrs.		13% ↓	
	Immig. to US (education)		56% ↓	
	Daily interactions with equal mix of ME and non-ME students	41% 个		89% 个
	Parents residing in NJ	56% ↓		
	Single status	86% ↓		69% ↓
	Being Muslim	55% ↓		61% ↓
	Belonging to student org.	65% ↓		



Sexual Behaviors

Significant Predictors		Odds Ratios		
		Ever had sexual intercourse	Condom use in last time	Contraception use in last time
Block 2: Sociocultural Predictors	Variability predicted (R ²)	27-36%	10-13%	18-27%
	Traditional attitudes toward women	7% ↓		
	Traditional attitudes toward sexuality	27% ↓		
Block 3: Access to Care Predictors	Variability predicted (R ²)	4-6%	5-7%	11-17%
	Having health insurance	4x↑		
	Having seen HCP past 12 months		2x ↑	
	Having access to Gyn/WHC			66%个



Cervical Cancer Screening & Prevention Behaviors

Significant Predictors		Odds Ratios		
		Ever had a Pap test	Ever had an HPV test	Received ≥ 1 HPV vaccine
	Variability predicted (R ²)	36-55%	25-42%	12-17%
50	Age, older than 21 yrs.	65% 个	18% 个	
tor	Full-time work		27% 个	
dic	Mother's attending college			76% 个
Block 1: ndividual Predictors	Daily interactions with mostly non-ME students		79% 个	
	Daily interactions with equal mix of ME and non-ME students			80% ↑
	Being Muslim	64% ↓		
	Belonging to student org.	60% ↓	61% ↓	



Cervical Cancer Screening & Prevention Behaviors

Significant Predictors		Odds Ratios		
		Ever had a Pap test	Ever had an HPV test	Received ≥ 1 HPV vaccine
	Variability predicted (R2)	10-15%	15-26%	15-20%
:: ural ors	\downarrow Heritage acculturation	6%个	6%个	
Block 2: Sociocultural Predictors	↓ Mainstream acculturation	7% ↓	9% ↓	7% ↓
	Traditional attitudes toward sexuality		14% 个	12% 个
Block 3: Access to Care Predictors	Variability predicted (R ²)	19-29%	16-28%	5-7%
	Having health insurance			19x ↑
	Having access to Gyn/WHC	12x ↑	19x ↑	19% 个
	Health info – Internet		2x ↑	



Discussion

- The effect of being Muslim, single, and parents living in NJ
 - Demonstrates the <u>influence of the conservative cultural-religious</u> norms of ME woman
 - Protective effect of cultural-religious norms: decreased sexual intercourse
 - Risky effect of cultural-religious norms: decreased contraceptive use, having a Pap test & HPV test
- Daily interactions with <u>equal mix of ME and non-ME</u> <u>students</u>
 - Protective effect: increased contraception use and HPV vaccination
 - Risky effect: increased sexual intercourse and decrease HPV testing



Discussion

Having traditional views towards woman and sexuality

- Protective effect: lower rates of sexual intercourse; higher HPV testing and HPV vaccination
- Could be due to gender power imbalance that limit decisions about sexual behaviors due to fear of gender or cultural influence/retribution

Lower mainstream acculturation

- Risky effect: decrease in Pap and HPV testing and decrease in HPV vaccination
- Could be due to having more liberal views and less restrictive beliefs

Having a primary HCP and/or access to Gyn/WHC

Protective effect: higher condom and contraception use, Pap and HPV testing, and HPV vaccination



Implications for Practice & Research

Expanding college-based healthcare services to mitigate risky behaviors

- Addressing health needs of ME women on college campuses
- Promoting access to women's health services on campus
- Extending programs/interventions to the community
 - Community health centers, women's health centers, private practices, cultural and religious organizations

Future research

- Using qualitative approaches to understand the mechanisms of influence for the predictors on health behaviors in this population
- Developing and testing intervention strategies



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