

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

Constance Kozachek, PhD, RN

Trinitas School of Nursing

RWJBarnabas
HEALTH

Rula Btoush, PhD, RN

RUTGERS
School of Nursing

Presented at the ENRS 35th Annual Scientific Sessions, Philadelphia, PA; March 23, 2023
Promoting Liberty: Addressing Determinants of Health Through Nursing Science.

Disclosures

Disclosures	
Authors / Employer	Constance Kozachek Trinitas School of Nursing / RWJBarnabas Health
	Rula Btoush Rutgers University
Commercial Support	None
Conflict of Interest	None
Funding Source	Rutgers University Grant funded raffle-participant incentives

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



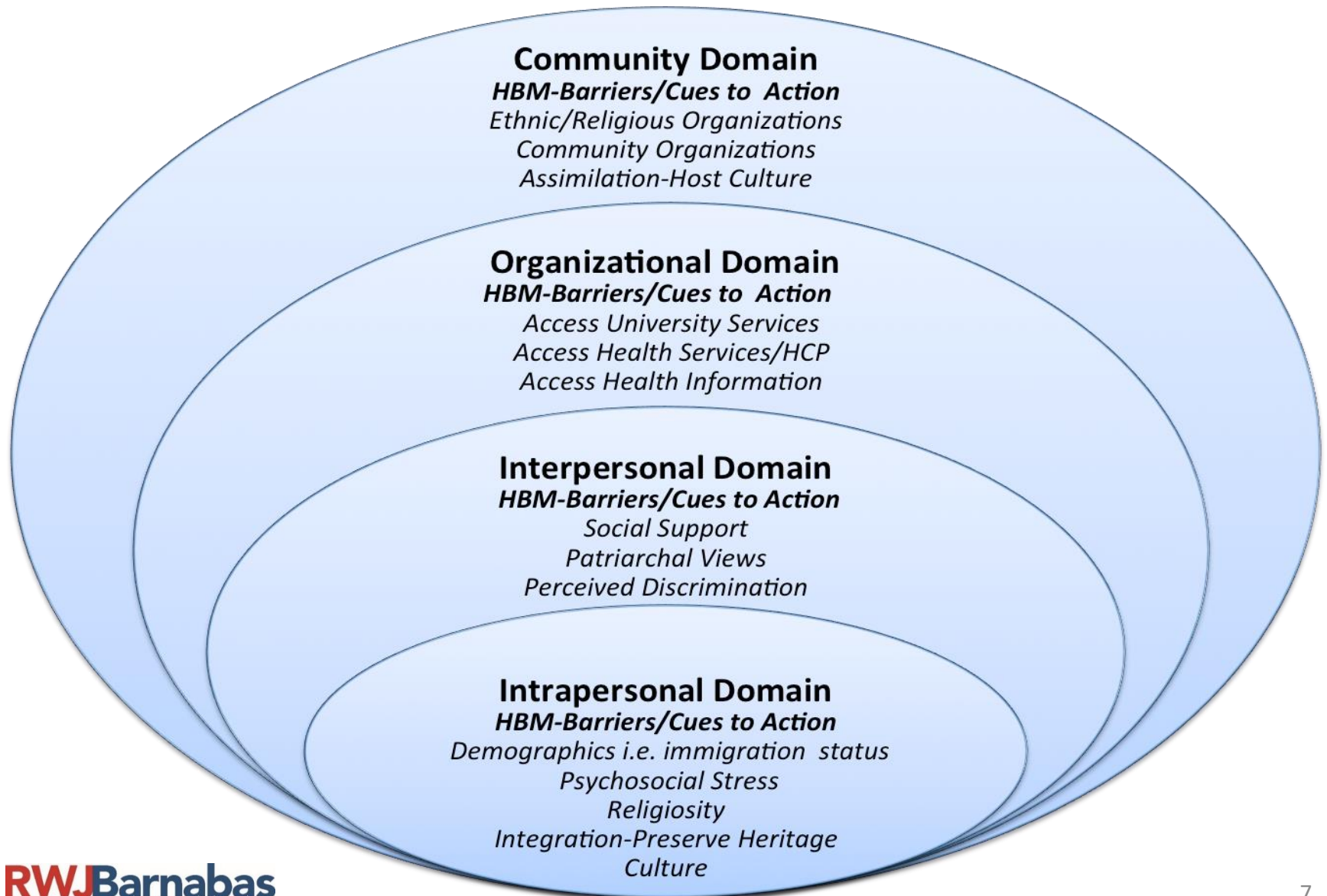
Arabs (individuals from Arabic speaking countries) are from 2 regions:

- **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



Study Purpose & Research Questions

Study purpose: To examine determinants of **sexual, cervical 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%

Hierarchical Logistic Regression Analysis

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 (R ²)	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% ↑	----	89% ↑
	Parents residing in NJ	56% ↓	----	----
	Single status	86% ↓	----	69% ↓
	Being Muslim	55% ↓	----	61% ↓
	Belonging to student org.	65% ↓	----	----

Hierarchical Logistic Regression Analysis

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% ↑

Hierarchical Logistic Regression Analysis

Cervical Cancer Screening & Prevention Behaviors

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

Hierarchical Logistic Regression Analysis

Cervical Cancer Screening & Prevention Behaviors

Significant Predictors		Odds Ratios		
		Ever had a Pap test	Ever had an HPV test	Received ≥ 1 HPV vaccine
Block 2: Sociocultural Predictors	Variability predicted (R ²)	10-15%	15-26%	15-20%
	↓ Heritage acculturation	6 % ↑	6 % ↑	----
	↓ Mainstream acculturation	7% ↓	9% ↓	7% ↓
	Traditional attitudes toward sexuality	----	14% ↑	12% ↑
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% ↑
	Health info – Internet	----	2x ↑	----

Discussion

- **The effect of being *Muslim, single, and parents living in NJ***
 - Demonstrates the influence of the conservative cultural-religious 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 equal mix of ME and non-ME students**
 - **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

Acknowledgements

- This presentation is part of a larger research study
 - Kozachek, C. (2021). *Factors that influence health behaviors among Middle Eastern college women in the United States* [PhD Dissertation, Rutgers University]. ProQuest Dissertations and Theses Global.
- **Rutgers University, School of Nursing** provided funding for participant incentives
- **Utmost gratitude for the ME student collaborators from Rutgers University** (*piloted survey questions/ recruitment /cultural navigators*)

Thank you!

Constance (Connie) Kozachek

Kozachek@ucc.edu

Connie.Kozachek@rwjbh.org

Rula Btoush

Rula.Btoush@Rutgers.edu